



Biological Resources Assessment

Dixon Innovation Center
(Pedrick Road)

Solano County
February 2024



Prepared for:

Bret Hogge
Buzz Oates Construction, Inc.
555 Capitol Mall, Suite 900
Sacramento, CA 95814

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2023. *Biological Resources Assessment for the Dixon Innovation Center*. Prepared for Buzz Oates Construction, Inc. Published on 26 February 2024.

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Dixon Innovation Center**

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1.0 INTRODUCTION

This report presents the results of a Biological Resources Assessment (BRA) conducted for the Dixon Innovation Center, also known as the Pedrick Road Property (Study Area) (**Figure 1**). The approximately 38-acre Study Area is located south of Highway 80 and west of Pedrick Road in the City of Dixon (City), Solano County, California, corresponding to Solano County Assessor's Parcel Number 011-010-080. The Study Area is located in a portion of Section 1, Township 7 North, Range 5 East (MDB&M) of the "Dixon California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2021) at a Latitude 38.482844°, Longitude -121.807263 (**Figure 1**).

1.1 Project Description

The Proposed Project is an industrial/business park with a mix of uses including industry clusters, research & development, light industrial, and advanced manufacturing. The current site plan is included as **Attachment A**. For the purposes of this document, impacts have been analyzed based on the assumption that the entire Study Area will be disturbed and permanently converted to an industrial/business park.

2.0 REGULATORY SETTING

This section describes federal, state and local laws and policies that are relevant to this assessment of biological resources.

2.1 Federal Regulations

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 protects species that are federally listed as endangered or threatened with extinction. FESA prohibits the unauthorized "take" of listed wildlife species. Take includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such activities. Harm includes significant modifications or degradations of habitats that may cause death or injury to protected species by impairing their behavioral patterns. Harassment includes disruption of normal behavior patterns that may result in injury to or mortality of protected species. Civil or criminal penalties can be levied against persons convicted of unauthorized "take." In addition, FESA prohibits malicious damage or destruction of listed plant species on federal lands or in association with federal actions, and the removal, cutting, digging up, damage, or destruction of listed plant species in violation of state law. FESA does not afford any protections to federally listed plant species that are not also included on a state endangered species list on private lands with no associated federal action.

2.1.2 Clean Water Act, Section 404

Section 404 of the Federal Clean Water Act requires that a Department of the Army permit be issued prior to the discharge of dredged or fill material into waters of the United States, including some wetlands. The

U.S. Army Corps of Engineers (USACE) administers this program, with oversight from the U. S. Environmental Protection Agency. As of the date of this document, waters of the United States (waters of the U.S.) are defined as follows (40 CFR 120.2):

1. Waters which are:
 - i. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - ii. The territorial seas; or
 - iii. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under item (5) below;
3. Tributaries of waters identified in items (1) or (2) above that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
 - i. Waters identified in item (1) of this section; or
 - ii. Relatively permanent, standing or continuously flowing bodies of water identified in items (2) or (3) above and with a continuous surface connection to those waters;
5. Intrastate lakes and ponds not identified in paragraphs (1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items (1) or (3) above.

Under the current definition of waters of the U.S., “adjacent” means *having a continuous surface connection*.

Waters subject to regulation under Section 404 are referred to as “jurisdictional waters”.

2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase or barter, any native migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR 21.11.). Likewise, Section 3513 of the California Fish & Game Code prohibits the “take or possession” of any migratory non-game bird identified under the MBTA. Therefore, activities that may result in the injury or mortality of native migratory birds, including eggs and nestlings, would be prohibited under the MBTA.

2.1.4 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (as amended) provides for the protection of bald eagle and golden eagle by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit [16 USC 668(a); 50 CFR 22]. The USFWS may authorize take of bald eagles and golden eagles for activities where the take is associated with, but not the purpose of, the activity and cannot practicably be avoided (50 CFR 22.26).

2.2 State Regulations

2.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires evaluations of project effects on biological resources. Determining the significance of those effects is guided by Appendix G of the CEQA guidelines. These evaluations must consider direct effects on a biological resource within the project site itself, indirect effects on adjacent resources, and cumulative effects within a larger area or region. Effects can be locally important but not significant according to CEQA if they would not substantially affect the regional population of the biological resource. Significant adverse impacts on biological resources would include the following:

- Substantial adverse effects on any species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS) (these effects could be either direct or via habitat modification);
- Substantial adverse impacts to species designated by the California Department of Fish and Game (2009) as Species of Special Concern;
- Substantial adverse effects on riparian habitat or other sensitive habitat identified in local or regional plans, policies, or regulations or by CDFW and USFWS;
- Substantial adverse effects on federally protected wetlands defined under Section 404 of the Clean Water Act (these effects include direct removal, filling, or hydrologic interruption of marshes, vernal pools, coastal wetlands, or other wetland types);
- Substantial interference with movements of native resident or migratory fish or wildlife species population, or with use of native wildlife nursery sites;
- Conflicts with local policies or ordinances protecting biological resources (e.g. tree preservation policies); and
- Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan.

2.2.2 State Endangered Species Act

With limited exceptions, the California Endangered Species Act (CESA) of 1984 protects state-designated endangered and threatened species in a way similar to FESA. For projects on private property (i.e. that for which a state agency is not a lead agency), CESA enables CDFW to authorize take of a listed species that is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code Section 2081).

2.2.3 California Fully Protected Species

The State of California first began to designate species as “fully protected” prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds,

and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code, § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

2.2.4 California Species of Special Concern

The Species of Special Concern (SSC) are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the federal or California ESAs or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role.
- The species is listed as federally (but not state) threatened or endangered or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

SSC are typically associated with habitats that are threatened. Project-related impacts to SSC, state-threatened or endangered species are considered "significant" under CEQA.

2.2.5 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.2.6 Clean Water Act, Section 401

Section 401 of the Clean Water Act requires any applicant for a 404 permit in support of activities that may result in any discharge into waters of the United States to obtain a water quality certification with the Regional Water Quality Control Board (RWQCB). This program is meant to protect these waters and

wetlands by ensuring that waste discharged into them meets state water quality standards. Because the water quality certification program is triggered by the need for a Section 404 permit (and both programs are a part of the Clean Water Act), the definition of waters of the United States under Section 401 is the same as that used by the USACE under Section 404.

2.2.7 California Water Code, Porter-Cologne Act

Waters that are not considered waters of the U.S. may be considered waters of the State of California (waters of the State) under the Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne, from Division 7 of the California Water Code, requires any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state to file a report of waste discharge (RWD) with the RWQCB. The RWQCB can waive the filing of a report, but once a report is filed, the RWQCB must either waive or adopt water discharge requirements (WDRs). Waters of the State are defined as any surface water or groundwater, including saline waters, within the boundaries of the state of California.

2.2.8 California Fish and Game Code, Section 1600 – Streambed and Lake Alteration

The CDFW is responsible for conserving, protecting, and managing California’s fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code, Section 1602, requires notification to CDFW of any proposed activity that may substantially modify a river, stream, or lake. Notification is required by any person, business, state or local government agency, or public utility that proposes an activity that will:

- substantially divert or obstruct the natural flow of any river, stream or lake;
- substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

For the purposes of Section 1602, rivers, streams and lakes must flow at least intermittently through a bed or channel. If notification is required and CDFW believes the proposed activity is likely to result in adverse harm to the natural environment, it will require that the parties enter into a Lake or Streambed Alteration Agreement (LSAA).

2.2.9 California Fish and Game Code, Section 3503.5 - Raptor Nests

Section 3503.5 of the Fish and Game Code makes it unlawful to take, possess, or destroy hawks or owls, unless permitted to do so, or to destroy the nest or eggs of any hawk or owl.

2.3 Local Regulations

2.3.1 Dixon General Plan 2040

The Study Area is subject to the Dixon General Plan 2040 (General Plan), which includes goals, objectives, and policies regarding biological resources within the City limits. The General Plan addresses biological resources in the Natural Environment section as included in the following policies:

NE-1.1 Preserve the natural open space and agricultural lands that surround Dixon through continued leadership in cross-jurisdictional conservation initiatives such as the Vacaville-Dixon Greenbelt and the Davis-Dixon greenbelt.

NE-1.2 Support regional efforts to place additional land under permanent conservation easements and continue to use the Agricultural Land Mitigation Fund to collect development impact fees for the purpose of funding greenbelt expansion.

NE-1.3 Encourage open space preservation through easements, open space designation, or dedication of lands for the purpose of connecting conservation areas, protecting biodiversity, accommodating wildlife movement, and sustaining ecosystems.

NE-1.4 Prior to annexing land into the city or expanding the SOI, continue to require agricultural mitigation consistent with the Solano County Local Agency Formation Commission's Standards and Procedures when agricultural lands would be converted to nonagricultural purposes.

NE-1.5 Continue to allow agriculture as an interim use on land within the City that is designated for future urban use.

NE-1.6 Recognize the Sacramento Valley - Solano Groundwater Subbasin as a critical resource for Dixon and proactively promote sustainable groundwater management practices.

NE-1.7 Continue to work with the Solano Subbasin Groundwater Sustainability Agency Collaborative to develop and implement strategies for the long-term health and viability of the Solano Groundwater Subbasin.

NE-1.8 Facilitate groundwater recharge in Dixon by encouraging development projects to use Low Impact Development (LID) practices such as bioretention, porous paving, and green roofs, and by encouraging private property owners to design or retrofit landscaped or impervious areas to better capture storm water runoff.

NE-1.9 Ensure that drainage ditches which discharge directly to or are located within open space lands are regularly repaired and maintained.

NE-1.10 Support regional habitat conservation efforts, including implementation of the Solano Countywide Multispecies Habitat Conservation Plan.

NE-1.11 Ensure that adverse impacts on sensitive biological resources, including special-status species, sensitive natural communities, sensitive habitat, and wetlands are avoided or mitigated to the greatest extent feasible as development takes place.

NE-1.12 In areas where development (including trails or other improvements) has the potential for adverse effects on special-status species, require project proponents to submit a study conducted by a qualified professional that identifies the presence or absence of special-status species at the proposed development

site. If special-status species are determined by the City to be present, require incorporation of appropriate mitigation measures as part of the proposed development prior to final approval.

NE-1.13 Protect the nests of raptors and other birds when in active use, as required by State and federal regulations. In new development, avoid disturbance to and loss of bird nests in active use by scheduling vegetation removal and new construction during the non-nesting season or by conducting a pre-construction survey by a qualified biologist to confirm nests are absent or to define appropriate buffers until any young have successfully fledged the nest.

NE-1.14 Recognize the importance of the urban forest to the natural environment in Dixon and expand the tree canopy on public and private property throughout the community.

NE-1.15 Enhance tree health and the appearance of streets and other public spaces through regular maintenance as well as tree and landscape planting and care of the existing canopy.

NE-1.16 Minimize removal of, and damage to, trees due to construction-related activities and continue to require replacement of trees, including street trees lost to new development.

NE-1.17 Require new development to provide and maintain street trees suitable to local climatic conditions.

As many of the policies are resource based and some projects may lack these resources, policies are applied as necessary to meet the General Plan's goal and objectives based on the resources within an area.

2.3.2 Northeast Quadrant Specific Plan

The Project is within the Dixon Northeast Quadrant Specific Plan (NQSP). The NQSP establishes a land use and circulation plan, policies, and guidelines for the development of 643 acres in the northeast portion of the City of Dixon. The specific plan defines the land use and development concepts to be applied in the plan area and is intended to implement the objectives and policies of the City of Dixon General Plan. Applicable resource management policies of the NQSP are included below.

Wetlands

- Any wetlands determined to be subject to state or federal regulation will be subject to review by the appropriate agencies. Requirements of any permit issued by state and federal agencies will be fully implemented.
- Any enhancement/compensation program required pursuant to state or federal permits will be the responsibility of the property owners. Where excavation is utilized to create or enhance wetlands, excavated soils should be reshaped to form gentle contours and then planted with appropriate native species.
- If removal or total destruction of the wetland area is unavoidable as a result of the project, after examination of all feasibility alternatives, it may be required that the impacted wetland should be mitigated at a 1:1 ratio so that no net loss of wetland habitat occurs. Onsite mitigation is preferable, although offsite mitigation may be allowed. The Community Director in consultation with CDFW shall define a set of conditions applicable to wetland mitigation for approval on any affected development within the plan area.

- Implementation of both a short-term and long-term monitoring program to ensure the success of the required appropriate permits and EIR mitigation measures is required. The property owners will be responsible for required monitoring.
- If publicly accessible, wetland areas should be limited to passive recreation activities compatible with the primary purpose of wetland habitat restoration. In general access should be controlled or restricted.
- Prior to construction approval of improvement plans, or the issuance of any permits for adjacent property a chain link fence, or acceptable alternative, shall be installed along the wetland area. The fencing should not be removed until the completion of construction activity. A written release from the Community Development Department must be received prior to the removal of any fencing.
- Proposed detention/retention facilities located within or adjacent to wetland preserve areas should be in compliance with appropriate permit requirements.

Sensitive Species

- Proponents of development applications within the specific plan area shall consult with CDFW regarding the take of an endangered species or its habitat pursuant to the CESA and CDFW codes.
- A (bird) breeding survey should be conducted between April and July, prior to construction, to determine if the species nests on-site, if further impacts are a possibility, and to develop appropriate mitigation strategies.
- The Dixon Community Development Director in consultation with CDFW shall define a set of conditions for approval on any development within the plan area consistent with the Count Habitat Conservation Plan, if such a plan is in effect at that time. Such conditions shall be applied by the Planning Commission and City Council, in the City review and entitlement process. Such conditions shall be enforced by the Community Development Department and the Engineering Department, during the review and approval of any land use or improvement plans pursuant to the land use entitlement.

Trees and Orchards

- Development plans shall identify the location, species, size, and general condition of all existing trees on site, except trees within an orchard. Existing trees should be incorporated in the development plan where feasible.
- Signs, ropes, cables, or other similar appendages should not be attached to trees designated for preservation unless specifically required by a certified arborist.
- No tree identified for preservation in approved plans may be removed or significantly altered without approval by the Dixon Community Development Department.
- Tree preservation and site development policies set forth herein should be incorporated into Covenants, Conditions and Restrictions (CC&Rs) for all projects within the plan area to ensure that subsequent property owners are aware of their obligation to protect any trees designated for preservation.
- All development projects should be designed to avoid:

- o compaction of the tree root zone,
- o discharge of concentrated run-off to the root zone of trees,
- o placement of parking or walkways across the root zone, and
- o heat damage or scorching of trees from highly reflective building materials or paving.

Soil Protection and Grading

- All development plans submitted for City review and approval shall provide an erosion and sediment control plan in compliance with the City's grading control ordinance. Required measures will include seeding of graded areas and watering during grading activities to reduce wind erosion.
- If created, slopes should be rounded at top and bottom. Steep slopes (greater than 3: 1) and large retaining walls (higher than five feet) should be avoided.
- Soil exposed during grading which will be left exposed and will not be under active construction during the rainy season (assumed to occur between October 15 and April 15) should be promptly replanted with native compatible, drought-resistant vegetation.
- Prior to the development of any individual project area, a master conceptual grading plan should be submitted which identifies the overall grading concept for the project area.
- Drainage problems resulting from poor soil permeability should be reduced through development of gravel subdrains and the creation of swales and channels to convey runoff.

Water Quality

- Paved parking areas should be designed to provide the minimum amount of paving area necessary to meet required parking standards. Permeable paving materials may be considered where feasible.
- Best management practices (BMPs) such as sediment traps, evaporation basins, flow reduction devices, and other methods to treat pollutants draining from parking areas and streets shall be installed in the storm drain system for individual projects within the plan area in accordance with City standards.
- Plan proposed detention ponds shall incorporate similar BMP devices and methods in accordance with City standards.
- Design of storm detention facilities should be consistent with the City's retention/detention system design standards. In general, allowable storage capacity shall be determined by the city engineer. Low growing ground cover is recommended around the periphery of the pond. Other aesthetic enhancements may be allowed with approval from the city engineer.

The NQSP identified potential biological impacts to vegetation, seasonal freshwater marsh, wildlife resources, Swainson's hawk, Tiger Salamander, and cumulative impacts. These impacts were reduced to a less-than-significant level by implementing the following mitigation measures included in the *Final Environmental Impact Report for the Northeast Quadrant Specific Plan Mitigation Monitoring Program Finding of Fact and Statement of Overriding Considerations* (MMRP) (City of Dixon 1995). These measures apply to development within the NQSP.

- Mitigation Measure B-A: Prior to issuance of improvements or development approval by the City, a detailed wetland delineation should be conducted to precisely define seasonal wetland boundaries and acreages. Habitat values should also be qualified by type and condition of vegetation.
- Mitigation Measures B-B: Prior to issuance of improvement or development approvals by the City, a chain link fence, or acceptable alternative, shall be installed around the seasonal wetland area. The fencing should not be removed until completion of construction activities. Written release from the City Planning Department must be received prior to removal of any fencing.
- Mitigation Measure B-C: Where practicable, the wetlands area should be avoided through land use planning.
- Mitigation Measure B-D: Preserved wetlands area should be protected from development by a 50-foot buffer or easement, so that the seasonal wetland continues to function in a natural state. Buffer widths would vary depending upon final configuration of adjoined proposed land uses. The wetlands area and buffer shall be dedicated as an open-space easement which prohibits structures, grading, and filling activities.

In general, the following standards shall apply to the buffer and preserved wetlands area:

- All sprinkler systems shall be designed so that no direct irrigation water reaches any portion of the preserve. Grass-lined swales shall be constructed at the margins of all turfed and irrigated areas that slope toward the buffer in order to intercept and prevent irrigation water from flowing into the wetland area.
- No mowing shall be allowed to occur in a wetland easement.
- Surface water runoff from paved surface shall be directed away from any intermittent tributary or swale which carries water to a wetland.
- Mitigation Measure B-E: If the removal or total destruction of the marshland area is unavoidable as a result of the project, after examination of all feasible avoidance alternatives, it may be required that the impacted wetlands be mitigated at a 1:1 ration so that no net loss of wetland habitat occurs. On-site mitigation is preferable, although off-site mitigation may be allowed.
- Swainson's Hawk Mitigation Measure B-F: The following mitigation measure shall be required as part of a subsequent "construction-level" analysis, required before any construction can be implemented. The project will not substantially affect a special-status animal species or species' habitat. To ensure this a breeding survey shall be conducted between April and July in order to:
 - Determine if the species nest on the project site;
 - To develop appropriate mitigation measures, which may include 1:1 replacement ratio of impacted foraging habitat. This replacement habitat should include alfalfa and row crops such as tomatoes, oats, wheat, barley, and sugar beets.
- Swainson's Hawk Mitigation Measure B-G: Project proponents shall participate in a County-wide Habitat Management Plan as appropriate. The Dixon General Plan EIR's mitigation measure for wildlife impact requires developers to participate in a Habitat Mitigation Plan.
- California tiger salamander Mitigation Measure B-H: No tiger salamander were observed to occupy the wetland area of the project site during the field surveys. However, the following

- mitigation measures shall be required as part of a subsequent "construction-level" analysis, required before any construction can be implemented.
- The project will not substantially affect a special-status animal species or species' habitat. To ensure this, a field survey shall be conducted during the spring months in order to:
 - Determine if the species occurs on the project site;
 - To develop appropriate mitigation measures
 - Disturbance to habitat for northern harrier, black shouldered kite (white-tailed kite) and tricolored blackbird Mitigation Measure B-I: The following mitigation measures shall be required as part of a subsequent "construction-level" analysis, required before any construction can be implemented. The project will not substantially affect a special-status animal species or species' habitat. To ensure this, project proponents shall participate in a County Wide Habitat Management Plan addressing the loss of potential foraging habitat.

2.3.3 Solano Habitat Conservation Plan

The General Plan contains a policy to support regional habitat conservation efforts, including implementation of the Solano Countywide Multispecies Habitat Conservation Plan (HCP) (Policy NE-1.10). Additionally, the NQSP requires that the Dixon Community Development Director set conditions of approval consistent with the HCP if approved at the time of entitlement. The HCP, which is being led by the Solano County Water Agency, establishes a framework for complying with federal and state regulations for endangered species while accommodating development of infrastructure, and ongoing operations and maintenance activities associated with flood control, irrigation facilities, and other public infrastructure undertaken by or under the permitting authority/control of the HCP participants within the plan area. The City is a voluntary participant in the HCP if/when the HCP is adopted.

The Study Area is within the City of Dixon Urban Growth Boundary and indicated as irrigated agriculture within a General Plan designated planned development. The Study Area is mapped in the HCP covered activity Zone 1-Urban Zone. The HCP notes that projects in this zone that are "...surrounded by urban development on at least three sides are not considered to be important for conservation and are generally exempt from in-depth habitat surveys and mitigation requirements. However, even small in-fill projects will be required to comply with wetland protection, compensation and permitting requirements, and with protection measures for the nests of burrowing owl, Swainson's hawk, and other Covered and Special Management Species." The Study Area is currently surrounded only surrounded by development to the north.

The HCP has not been adopted to date and likely will not be adopted prior to the project going to construction, but measures to address impacts identified within the Study Area would not conflict with the October 2012 administrative draft version of the HCP (SCWA 2012) as directed by General Plan and the MMRP.

3.0 METHODOLOGY

3.1 Literature Review

A list of special-status species with potential to occur within the Study Area was developed by conducting a query of the following databases:

- California Natural Diversity Database (CNDDDB) (CNDDDB 2023) query of the Study Area and all areas within 5 miles of the Study Area (**Figures 2 and 3**);
- USFWS Information for Planning and Conservation (IPaC) (USFWS 2023a) query for the Study Area (**Attachment B**);
- California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (CNPS 2023) query of the “Dixon, California” USGS topo quadrangle, and the eight surrounding quadrangles (**Attachment C**); and
- Western Bat Working Group (WBWG) Species Matrix (WBWG 2023).

In addition, any special-status species that are known to occur in the region, but that were not identified in any of the above database searches were also analyzed for their potential to occur within the Project area. The Aquatic Resources Delineation Report for Pedrick Road (Madrone 2023) was reviewed and incorporated into this document.

For the purposes of this Biological Resources Assessment, special-status species is defined as those species that are:

- listed as threatened or endangered, or proposed or candidates for listing by the USFWS or National Marine Fisheries Service;
- listed as threatened or endangered and candidates for listing by CDFW;
- identified as Fully Protected species or species of special concern by CDFW;
- identified as Medium or High priority species by the WBWG (WBWG 2023); and
- plant species considered to be rare, threatened, or endangered in California by the CNPS and CDFW [California Rare Plant Rank (CRPR) 1, 2, and 3]:
 - CRPR 1A: Plants presumed extinct.
 - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
 - CRPR 2A: Plants extirpated in California, but common elsewhere.
 - CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
 - CRPR 3: Plants about which the CNPS needs more information – a review list.

3.2 Field Surveys

Madrone senior biologist Bonnie Peterson conducted field surveys of the Study Area on 15 April and 2 September 2022 to assess the suitability of habitats on-site to support special-status species and to conduct a delineation of aquatic resources. Meandering pedestrian surveys were performed on foot throughout the Study Area. Vegetation communities were classified in accordance with *Vegetation Alliances and Associations of the Great Valley Ecoregion* (CNPS 2012) and plant taxonomy was based on the nomenclature

in the Jepson eFlora (Jepson Flora Project 2023). A list of all wildlife species observed during field surveys is included as **Attachment D**.

The results of the aquatic resources delineation conducted by Madrone (Madrone 2023) are also incorporated into this report:

4.0 EXISTING CONDITIONS

The Study Area is comprised of leveled agricultural land at an elevation of approximately 65-ft above mean sea level. The Study Area is bound by Interstate 80 to the northwest, a stormwater basin and industrial site to the north, Pedrick Road to the east, and agricultural land to the south. The surrounding lands are generally agricultural.

A shallow, upland roadside ditch is located north of the Study Area and is directed through a culvert pipe into a box inlet structure in the northeastern corner of the Study Area. This box culvert drains to an off-site stormwater basin directly north of the Study Area. A similarly shallow roadside feature is observable along the Pedrick Road. The Study Area is dry land farmed and has been utilized as a hay field for a number of years and terrestrial plant communities in the Study Area are limited to agricultural lands and with ruderal fringes. During the April 2022 site visit the Study Area had been closely mowed, and by September it had been disked and was minimally vegetated. Scattered walnut trees (*Juglans sp.*) are located outside the western boundary of the Study Area, along the Interstate 80 frontage.

4.1 Terrestrial Vegetation Communities

The Study Area does not contain any natural communities as classified by the *Vegetation Alliances and Associations of the Great Valley Ecoregion*. Vegetation communities in the Study Area consists of Agricultural lands.

4.1.1 Agricultural

Agricultural lands are classified by CNPS as unvegetated or urbanized areas with ground cover dominated by annual or perennial agriculture. Dry farmed areas within the Study Area are regularly mowed and disked and are currently comprised of non-native annual grasses and weedy forbs. The primary crop appears to have been cultivated wheat (*Triticum aestivum*). In addition to the disked wheat, this vegetation community is dominated by tumbleweed (*Amaranthus albus*), Russian thistle (*Salsola tragus*), Johnsongrass (*Sorghum halepense*), common purslane (*Portulaca oleracea*), silver sheath knotweed (*Polygonum argyrocoleon*), alkali mallow (*Malvella leprosa*), filaree (*Erodium botrys*), Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca serriola*), and winter vetch (*Vicia villosa*). In less disturbed areas along Pedrick Road and Highway 80 frontages other species that commonly occur include perennial ryegrass (*Festuca perennis*), filaree, winter vetch, yellow starthistle (*Centaurea solstitialis*), slender wild oat (*Avena barbata*), and cleavers (*Galium aparine*).

4.2 Aquatic Resources

No aquatic resources were delineated within the Study Area during a protocol-level aquatic resources delineation conducted in 2022. This delineation was submitted to the USACE and verified on 12 January 2024 (**Attachment E**).

In addition the National Wetlands Inventory (NWI) was reviewed. The (NWI) produces and distributes maps and other geospatial data to the public on American wetland and deepwater habitats, as well as monitor changes in these habitats through time as directed by the Emergency Wetlands Resources Act of 1986 (Public Law 99-645). The NWI is primarily compiled through the use of trained image analysts to identify and classify wetlands and deepwater habitats from aerial imagery and is not a substitute for a full field analysis. The NWI has also not mapped any wetlands or other aquatic resources within the Study Area (USFWS 2023).

4.3 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2023a), three soil mapping units occur within the Study Area (**Figure 5**):

- (BrA) Brentwood clay loam, 0 to 2 percent slopes,
- (Ca) Capay silty clay loam, 0 percent slopes, MLRA 17,
- and (Yo) 0 to 4 percent slopes, MLRA 17.

None of the mapped soil map units are listed in the “**Hydric Soils of the United States**” (NRCS 2023b) or contain recognized hydric inclusions. The vast majority of the Study Area is Capay silty clay loam.

Soils within the Study Area are prime farmland and general alluvium derived from igneous, metamorphic and sedimentary rock. Soils are non-saline with the exception of the Brentwood clay inclusion in the southwest corner which is non-saline to very slightly saline. No serpentine soils are known to occur within the Study Area.

5.0 RESULTS

Table 1 provides a list of special-status species that were evaluated, including their listing status, habitat associations, and their potential to occur in the Study Area. The following set of criteria was used to determine each species’ potential for occurrence on the site:

- Present: Species occurs on the site based on CNDDDB records, and/or was observed on the site during field surveys.
- High: The site is within the known range of the species and suitable habitat exists.
- Moderate: The site is within the known range of the species and very limited suitable habitat exists.

- Low: The site is within the known range of the species and there is marginally suitable habitat or the species was not observed during protocol-level surveys conducted on-site.
- Absent/No Habitat Present: The site does not contain suitable habitat for the species, the species was not observed during protocol-level floristic surveys conducted on-site, or the site is outside the known range of the species.

Figures 2 and 3 are exhibits displaying CNDDDB occurrences within five miles of the Study Area. Below is a discussion of all special-status plant and animal species with potential to occur on the site.

5.1 Species Considered and Excluded

As analyzed in Table 1, agricultural lands within the Study Area lack the necessary habitat constituents to provide potential habitat for federally, state, or CRPR listed plant species. No special-status plant species have been observed within the Study Area. The Study Area also lacks high quality habitat for invertebrate species. The lack of necessary habitat consistent (wetlands, elderberry shrubs) and current land use preclude special-status invertebrate species known to occur in the greater vicinity. Additionally, the Study Area lacks suitable aquatic habitat to support special-status reptiles and amphibians identified in the record search, and lacks roosting sites for special-status bat species. As such special-status plants, invertebrates, reptiles, amphibians, and mammals are not discussed further in this report.

5.2 Birds

The Study Area provides potential nesting or foraging habitat for a number of bird species as discussed below.

5.2.1 Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are not federally listed, but are state listed as threatened. In addition, tricolored blackbird is listed by CDFW as a species of special concern. They are colonial nesters preferring to nest in dense stands of cattails, bulrush, or blackberry thickets associated with perennial water (Shuford and Gardali 2008).

The Study Area does not provide suitable nesting habitat for this species and the off-site stormwater pond directly north of the Study Area does not contain the typically perennial hydrology or dense vegetation favored for nesting habitat. Agricultural fields, particularly if planted in seasonal grains or silage, represent suitable seasonal foraging habitat for tricolored blackbird. The nearest documented occurrence of tricolored blackbird is CNDDDB Occurrence #328, which is located approximately 3.75 miles northwest of the Study Area (CNDDDB 2023).

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Plants</i>				
<i>Astragalus tener</i> var. <i>ferrisiae</i> Ferris' milk-vetch	--	CRPR 1B.1	Occurs in meadows, foothill and valley grasslands. Usually found in dry adobe soils. Elevations between 5-245'.	No Habitat Present. No suitable grasslands present.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	--	CRPR 1B.2	Include elevation range. Playas, Valley and foothill grassland (adobe clay), Vernal pools	No Habitat Present. The Study Area does not support wetlands or grassland habitats and is regularly disturbed.
<i>Atriplex cordulata</i> var. <i>cordulata</i> Heartscale	--	CRPR 1B.2	Grows in grasslands with sandy alkaline or saline soils. Occurs in elevations between sea level and 1835'.	No Habitat Present. The Study Area does not support suitable sandy soils.
<i>Atriplex depressa</i> Brittlescale	--	CRPR 1B.2	Prefers meadows or grasslands, vernal pools, in alkaline or saline clay soils. (5-1050')	No Habitat Present. The Study Area does not support typically meadow, grassland or mesic habitats.
<i>Atriplex persistens</i> Vernal pool smallscale	--	CRPR 1B.2	Alkaline vernal pools (35' - 375')	No Habitat Present. The Study Area does not support vernal pools or other wetlands.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	--	CRPR 1B.2	Found on alkaline soils in coastal prairie, meadows, seeps, coastal salt marshes, and valley/foothill grasslands. Found at sea level to 1380 ft.	No Habitat Present. The Study Area does not support alkaline soils or typically grassland habitats.
<i>Chloropyron molle</i> ssp. <i>hispidum</i> Hispid bird's-beak	--	CRPR 1B.1	Prefers seasonally flooded, saline-alkali soils at elevations between 5 and 510 feet. Occurs in valley and foothill grasslands.	No Habitat Present. No alkaline soils or grassland are present on-site.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water-hemlock	--	CRPR 2B.1	Coastal, fresh, or brackish marshes and swamps (0' – 656').	No Habitat Present. No coastal marshes or swamps present.
<i>Delphinium recurvatum</i> Recurved larkspur	--	CRPR 1B.2	Alkaline soils within chenopod scrub, cismontane woodland, and valley and foothill grasslands (10' – 2,592').	No Habitat Present. Alkaline soils do not occur within the Study Area.
<i>Downingia pusilla</i> Dwarf downingia	--	CRPR 2B.2	Mesic areas in valley and foothill grassland, and vernal pools (3' – 1,460').	No Habitat Present. The Study Area does not support vernal pools or other wetlands.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	--	CRPR 1B.2	Occurs in vernal pools, valley and foothill grasslands. Found at elevations between 10-985 feet.	No Habitat Present. The Study Area does not support wetlands or other grassland habitats.
<i>Extriplex joaquinana</i> San Joaquin spearscale	--	CRPR 1B.2	Found in seasonal alkali wetlands or alkali sink scrub. Found between 5 and 2740 feet.	No Habitat Present. The Study Area does not support wetlands or other scrub habitat.
<i>Fritillaria liliacea</i> Fragrant fritillary	--	CRPR 1B.2	Elevations between 10 feet and 1,350 feet. Found in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grasslands, often on serpentine soils.	No Habitat Present. Although this species is typically found on serpentine soils, it has been found on clay soils. However, current land management as active agriculture precludes the establishment of suitable habitat.
<i>Fritillaria pluriflora</i> Adobe-lily	--	CRPR 1B.2	Grows in chaparral, cismontane woodland, or foothill grasslands with clay or serpentine soils. (195-2315')	No Habitat Present. Although this species is typically found on serpentine soils, it has been found on clay soils. However, current land management as active agriculture

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
				precludes the establishment of suitable grassland habitat.
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	--	CE, CRPR 1B.2	Vernal pools and margins of lakes/ponds on clay soils (35' - 7,790').	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Hibiscus lasiocarpus var. occidentalis</i> Woolly rose-mallow	--	CRPR 1B.2	Occurs in freshwater wetlands/marshes including edges. Often in riprap on sides of levees. Found in elevations between sea level to 395 feet.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Isocoma arguta</i> Carquinez goldenbush	--	CRPR 1B.1	Alkaline soils in valley and foothill grasslands (3' – 66').	No Habitat Present. The Study Area does not contain suitable alkaline soils or grassland habitats.
<i>Lasthenia chrysantha</i> Alkali-sink goldfields	--	CRPR 1B.1	Alkaline vernal pools (0' - 655').	No Habitat Present. Alkaline soils do not occur within the Study Area and the Study Area does not support wetlands or other mesic areas.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	CRPR 1B.1	Found in mesic areas in cismontane woodland and annual grassland and in alkaline playas and vernal pools. Occurs in areas between 0-1540 ft.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Lasthenia glabrata ssp. coulteri</i> Coulter's goldfields	--	CRPR 1B.1	Usually found on alkaline soils in sinks, playas, vernal pools, grasslands, and coastal salt marshes between 5-4005 ft	No Habitat Present. The Study Area does not support wetlands or other mesic areas and lacks alkaline soils.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	None	CRPR 1B.2	Prefers tidally influenced channels, brackish marshes and swamps below 15 feet.	No Habitat Present. The Study Area does not support wetlands, swamps, or marshes.
<i>Legenere limosa</i> Legenere	--	CRPR 1B.1	Occurs in vernal pools between 5 and 2885 feet.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	--	CRPR 1B.2	This annual prefers valley and foothill grasslands with alkaline soils.	No Habitat Present. The Study Area does not contain alkaline soils and does not support grassland habitats.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--	Rare, CRPR 1B.1	This species prefers brackish or freshwater swamps, intertidal marshes, and riparian scrub at or below 35 feet.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--	CRPR 1B.1	Favors vernal pools, cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grasslands between 15 and 5710 feet.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Neostapfia colusana</i> Colusa grass	FT, CH	CE, CRPR 1B.1	Large vernal pools with clay soils (16' – 656').	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass	FT, CH	CE, CRPR 1B.1	Vernal pools on acidic soils (35' - 2,475').	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Plagiobothrys hystriculus</i> Bearded popcornflower	--	CRPR 1B.1	Often in vernal swales, and in mesic areas of valley and foothill grassland and vernal pool margins (0' – 899').	No Habitat Present. The Study Area does not support wetlands or other mesic areas.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Puccinellia simplex</i> California alkali grass	--	CRPR 1B.2	Alkaline, vernal mesic areas in sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (7' - 3,051').	No Habitat Present. Alkaline soils do not occur within the Study Area.
<i>Sagittaria sanfordii</i> Sanford's arrowhead	--	CRPR 1B.2	Occurs in emergent marsh habitat, typically associated with drainages, canals, or irrigation ditches (0' - 2,135').	No Habitat Present. The Study Area lacks suitable marsh or aquatic habitat.
<i>Sidalcea keckii</i> Keck's checkerbloom	FE	CRPR 1B.1	Serpentinite clay soils in cismontane woodland and valley and foothill grasslands (245' - 2,135').	No Habitat Present. Serpentinite soils do not occur within the Study Area and the Study Area lacks suitable woodland or grassland habitats.
<i>Symphotrichum lentum</i> Suisun Marsh aster	--	CRPR 1B.2	Occurs in fresh and salt water marshes, often associated with blackberries, cattails, and bulrush between sea level and 10 feet.	No Habitat Present. No marshes occur within the Study Area.
<i>Trifolium amoenum</i> Two-forked clover	FE	CRPR 1B.	Considered extinct until 1993. Only known from two occurrences, one in Sonoma County and one in Marin. Occurs in coastal bluff scrub, valley and foothill grassland between 15 and 1360 feet elevation.	No Habitat Present. Outside of the documented range of the species. The Study Area lacks suitable scrub or grassland habitat.
<i>Trifolium hydrophilum</i> Saline clover	--	CRPR 1B.2	Grows in marshes, swamps, and vernal pools with alkaline soils between sea level and 985 feet elevation.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Tuctoria mucronate</i> Crampton's tuctoria	FE	CE, CRPR 1B.1	Vernal pools and mesic areas in valley and foothill grasslands. Blooms April-August (elevation 15'–35')	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
Invertebrates				
<i>Bombus crotchii</i> Crotch bumble bee	--	CC	Occurs in open grasslands and scrub habitats. This species occurs primarily in California including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills through most of southwestern California (William et al 2014). This species was historically common in the Central Valley of California, but now appears to be absent from most of it, especially in the center of its historic range (Williams et al. 2014; Richardson et al 2014).	Low. This species is poorly documented. The Study Area does not support typical grassland or scrub habitats and agricultural disturbance reduces the suitability of overwintering.
<i>Bombus occidentalis</i> Western bumble bee	--	CC	Meadows and grasslands with the blended floral resources are the appropriate habitat for this sub-species. While the Western bumble bee was historically known throughout the mountains and northern coast of California, it is now largely confined to high elevation sites and a small handful of records on the northern	Low. This species is poorly documented. The Study Area does not support typical grassland or scrub habitats and agricultural disturbance reduces the suitability of overwintering.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
			California coast (Cameron et al. 2011a; Xerces Society 2012; Williams et al. 2014; Xerces Society et al. 2017).	
<i>Branchinecta conservatio</i> Conservancy fairy shrimp	FE	--	Occurs in very large, turbid vernal pools.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT	--	Occurs in vernal pools.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Branchinecta mesovallensis</i> Midvalley fairy shrimp	--	--	Occurs in vernal pools.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
<i>Danaus plexippus</i> Monarch butterfly	FC	--	Migratory species; most prevalent in the Central Valley in summer and early fall. Dependent upon milkweed (<i>Asclepias</i> species) plants as their exclusive larval host.	No Habitat Present. The Study Area does not support milkweed or nectar plants, which are a necessary habitat consistent for this species.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	--	Dependent upon elderberry (<i>Sambucus</i> species) plant as primary host species.	No Habitat Present. The Study Area does not support elderberry shrubs, which are a necessary habitat consistent for this species.
<i>Lepidurus packardii</i> Vernal pool tadpole shrimp	FE	--	Occurs in vernal pools.	No Habitat Present. The Study Area does not support wetlands or other mesic areas.
Amphibians				
<i>Ambystoma californiense</i> California tiger salamander	FT	CT, CSC	Breeds in ponds or other deeply ponded wetlands and uses gopher	No Habitat Present. The Study Area does not support suitable

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

<i>Scientific Name</i> (Common Name)	Federal Status ¹	State Status ¹	Habitat Requirements	Potential for Occurrence
			holes and ground squirrel burrows in adjacent grasslands for upland refugia/foraging.	aquatic habitat for this species and is not adjacent to suitable breeding ponds. Regular land disturbance from agricultural activities reduces suitability of upland dispersal.
Reptiles				
<i>Actinemys marmorata</i> Northwestern pond turtle	FC	CSC	Occurs in ponds, rivers, streams, wetlands, and irrigation ditches with associated marsh habitat.	No Habitat Present. The Study Area does not support suitable aquatic habitat for this species. An offsite stormwater pond does not contain suitable hydrology or forage for this species.
<i>Thamnophis gigas</i> Giant garter snake	FT	CT	Occurs in rivers, canals, irrigation ditches, rice fields, and other aquatic habitats with slow moving water and heavy emergent vegetation.	No Habitat Present. The Study Area does not contain suitably aquatic habitat for this species.
Birds				
<i>Agelaius tricolor</i> Tricolored blackbird	--	CE, CSC	Colonial nester in cattails (<i>Typha</i> species), bulrush (<i>Schoenoplectus</i> species), or blackberry (<i>Rubus</i> species) associated with marsh habitats.	Moderate. No Breeding Habitat Present. The Study Area lacks suitable breeding habitat for this Species. An adjacent stormwater pond lacks established vegetation typical of breeding habitat, however, colonies may utilize the Study Area for seasonal foraging.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
<i>Aquila chrysaetos</i> Golden eagle	--	CFP	Forages in open areas including grasslands, savannahs, deserts, and early successional stages of shrub and forest communities. Nests in large trees and cliffs.	No Habitat Present. Breeding habitat is not present on-site, no typical foraging habitat present.
<i>Athene cunicularia</i> Burrowing owl	--	CSC	Nests in abandoned ground squirrel (<i>Otospermophilus beecheyi</i>) burrows associated with open grassland habitats.	Moderate. Agricultural areas are regularly disturbed and suitable burrows were not observed for this species. This species may utilize ruderal roadside areas and on or off-site culverts.
<i>Buteo swainsoni</i> Swainson's hawk	--	CT	Nests in large trees, preferably in riparian areas. Forages in fields, cropland, irrigated pasture, and grassland near large riparian corridors.	Present. The trees along Highway 80 are suitable nesting habitat, and the agricultural areas are suitable foraging habitat. A Swainson's hawk has been observed foraging in the Study Area and perching in adjacent trees.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FT	CE	Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, adjacent to slow-moving waterways, backwaters, or seeps.	No Habitat Present. The Study Area does not support riparian woodland habitats.
<i>Elanus leucurus</i> White-tailed kite	--	CFP	Open grasslands, fields, and meadows are used for foraging. Isolated trees in close proximity to foraging habitat are used for perching and nesting.	Low. The trees adjacent to the Project Site are low quality nesting habitat and not typically of the riparian trees that this species

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
				favors. Agricultural areas provide suitable foraging habitat for this species.
<i>Haliaeetus leucocephalus</i> Bald eagle	--	CE	Nest in large trees within 1 mile of lakes, rivers, or larger streams.	No Habitat Present. Suitable breeding habitat and foraging habitat are absent. No large lakes, rivers or streams in the vicinity.
Mammals				
<i>Antrozous pallidus</i> Pallid bat	--	CSC, WBWG H	Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods [<i>Sequoia sempervirens</i>] and giant sequoia [<i>Sequoiadendron giganteum</i>], bole cavities of oaks [<i>Quercus</i> species], exfoliating Ponderosa pine [<i>Pinus ponderosa</i>] and valley oak [<i>Quercus lobata</i>] bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2022).	No Habitat Present. The Study Area does not include suitable roosting habitat for this species.
<i>Lasionycteris noctivagans</i> Silver-haired bat	--	WBWG M	Roosts in abandoned woodpecker holes, under bark, and occasionally in	No Habitat Present. The Study Area does not include suitable roosting habitat for this species.

Table 1. Special-Status Species with Potential to Occur within the Dixon Innovation Center Project Area

Scientific Name (Common Name)	Federal Status¹	State Status¹	Habitat Requirements	Potential for Occurrence
			rock crevices. It forages in open wooded areas near water features.	
<i>Lasiurus cinereus</i> Hoary bat	--	WBWG M	Roosts primarily in foliage of both coniferous and deciduous trees at the edges of clearings (WBWG 2022).	No Habitat Present. The Study Area does not include suitable roosting habitat for this species.
<i>Taxidea taxus</i> American badger	--	CSC	This species prefers dry open fields, grasslands, and pastures.	Low. Agricultural land in the Study Area provides poor quality foraging and denning habitat. No recent occurrences of this species in the Study Area vicinity (CNDDDB 2023).

¹Status Codes:

CC - CDFW Candidate for Listing

CE - CDFW Endangered

CFP - CDFW Fully Protected

CRPR - California Rare Plant Rank

CR - California Rare

CSC - CDFW Species of Concern

CT - CDFW Threatened

FE - Federally Endangered

FT - Federally Threatened

FC - Federal Candidate for Listing

WBWG H - Western Bat Working Group High Threat Rank

WBWG M - Western Bat Working Group Medium Threat Rank

5.2.2 Burrowing Owl

Burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a species of special concern by the CDFW. They typically inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel, but may also use man-made structures such as culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (CDFG 1995). The breeding season extends from February 1 through August 31 (CBOC 1993, CDFG 1995).

Very little potential nesting habitat is present within the Study Area. No ground squirrel burrows were observed and the Study Area lacks debris piles, irrigation piping, or other artificial structures favored by this species. However, the drop inlet in the northeastern corner of the Study Area could provide artificial habitat and cover for burrowing owl. Agricultural lands provide suitable foraging habitat for this species. The nearest known occurrence of burrowing owl is approximately 0.25 miles northeast of the Study Area, along Highway 80 (CNDDDB Occ 238).

5.2.3 Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a raptor species that is not federally listed, but is listed as threatened by CDFW. Breeding pairs typically nest in tall trees associated with riparian corridors, and forage in grassland, irrigated pasture, and cropland with a high density of rodents (Shuford and Gardali 2008). The Central Valley populations breed and nest in the late spring through early summer before migrating to Central and South America for the winter (Shuford and Gardali 2008).

Agricultural fields throughout the Study Area represent high quality foraging habitat for Swainson's hawk, trees directly adjacent to the Study Area provide suitable nesting habitat, and Swainson's hawk was observed on-site during the 2022 site visits. The nearest documented Swainson's hawk nest that is considered extant is CNDDDB Occurrence #2243, in a walnut tree on the western boundary of the Study Area (CNDDDB 2006), however there are multiple confirmed Swainson's hawk occurrences within 5-miles of the Study Area.

5.2.4 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not federally or state listed, but is a CDFW fully protected species. This species is a yearlong resident in the Central Valley and is primarily found in or near foraging areas such as open grasslands, meadows, farmlands, savannahs, and emergent wetlands (Shuford and Gardali 2008). White-tailed kites typically nest from March through June in trees within riparian, oak woodland, and savannah habitats of the Central Valley and Coast Range (Shuford and Gardali 2008).

Agricultural fields throughout the Study Area represent suitable foraging habitat for white-tailed kite. While trees along Highway 80 adjacent to the Study Area provide nesting potential, white-tailed kite tends to

favor riparian habitats for nesting and it unlikely to nest adjacent to the Study Area. The nearest documented occurrence of white-tailed kite in the CNDDDB is Occurrence #55, which is located over 4 miles north of the Study Area.

6.0 IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

This section details potential impacts to the biological resources discussed above associated with construction of the Project, as discussed in **Section 1.1** and shown in **Attachment A**.

6.1 Nesting Raptors and Songbirds

Swainson's hawk, white-tailed kite, and tricolored blackbird have the potential to nest adjacent to and forage within the Project area. Common bird species protected by the MBTA may also nest and forage within the Project Area. Birds nesting in avoided areas adjacent to construction could be disturbed by construction, which could result in nest abandonment. If they were nesting on-site, removal of the nests would impact these species.

The conversion of agricultural lands to development represents the loss of foraging habitat for Swainson's hawk, white-tailed kite, and tricolored blackbird.

6.2 Tricolored Blackbird

The agricultural lands within the Study Area provide marginally suitable foraging habitat for tricolored blackbird colonies. No direct impact to individuals is anticipated due to the lack of suitable nesting habitat. The Proposed Project may result in the loss of up to 38.4 acres of foraging habitat for tricolored blackbird. The loss of foraging habitat is not expected to have a substantial adverse effect on regional foraging opportunities for tricolored blackbird.

6.3 Burrowing Owl

The agricultural lands within the Study Area provide marginally suitable foraging habitat for burrowing owls, but regular site disturbance and the lack of ground squirrel complexes or artificial structure fails to provide suitable nesting cover. While unlikely, burrowing owl may use the storm drain inlets in the northeast corner of the Study Area as artificial cover.

The Proposed Project may result in the loss of up to 38.4 acres of burrowing owl foraging habitat. Additionally, if burrowing owls were present in the Project Area at the time of construction, individuals of this species could be killed and/or nests could be abandoned. However, application pre-construction burrowing owl surveys and other burrowing owl avoidance measures would minimize the potential for direct impacts to individuals that may be using the site at the time of construction. The loss of foraging habitat is not expected to have a substantial adverse effect on regional foraging opportunities for burrowing owl.

7.0 MITIGATION FOR IMPACTS TO SENSITIVE BIOLOGICAL RESOURCES

Impacts to Biological Resources are consistent with those anticipated in the NQSP. The Project Area does not contain any wetlands or other waters as verified by the USACE on 12 January 2024. The following are mitigation measures that are included in the General Plan and Specific Plan MMRP, or are often required by CEQA lead agencies for impacts to sensitive biological resources that may be associated with construction of the Project.

7.1 Nesting Raptors and Other Birds

Per the General Plan (NE-1.13) the following requirements apply to protect the nests of raptors and other birds when in active use.

- In new development, avoid disturbance to and loss of bird nests in active use by scheduling vegetation removal and new construction during the non-nesting season (typically September 1-February 15) or by conducting a pre-construction survey by a qualified biologist to confirm nests are absent or to define appropriate buffers until any young have successfully fledged the nest.

Additionally, the Project must be conducted in compliance with the NQSP. The following biological mitigation measures are included in the MMRP and are applicable to resources that occur in the Study Area.

- Disturbance to habitat for white-tailed kite and tricolored blackbird Mitigation Measure B-I: The following mitigation measures shall be required as part of a subsequent "construction-level" analysis, required before any construction can be implemented. The project will not substantially affect a special-status animal species or species' habitat. To ensure this, project proponents shall participate in a Countywide Habitat Management Plan addressing the loss of potential foraging habitat.

The following site-specific mitigation measure shall be implemented to meet the requirements of the NQSP and General Plan and reduce the risk of take under the MBTA:

- A pre-construction nesting bird survey shall be conducted by a qualified biologist (Project Biologist) throughout the portion of the Project Parcel proposed for construction and all accessible areas within a 500-foot radius of proposed construction areas, no more than seven days prior to the initiation of construction. If there is a break in construction activity of more than seven days, then subsequent surveys shall be conducted.
- If an active raptor nest is found, no construction activities shall take place within 500 feet of the nest until the young have fledged. If active songbird nests are found, a 100-foot no disturbance buffer will be established until the young have fledged. These no-disturbance buffers may be reduced if a smaller, sufficiently protective buffer is proposed by the Project Biologist and approved by the City after taking into consideration the natural history of the species of bird nesting, the proposed activity level adjacent to the nest, the nest occupants' habituation to

existing or ongoing activity, and nest concealment (i.e., whether there are visual or acoustic barriers between the proposed activity and the nest). The Project Biologist can visit the nest as needed to determine when the young have fledged the nest and are independent of the site or the nest can be left undisturbed until the end of the nesting season.

- Survey Report. A report summarizing the survey(s) shall be provided to the City within 30 days of the completed survey and is valid for one construction season. If no nests are found, no further mitigation is required.
- Increases to Buffers and Completion of Nesting
 - If construction activities will continue within the no-disturbance buffer, then the Project Biologist will be required to monitor the nest. That monitoring will include observations about the bird's behaviors relative to the construction activities. Should construction activities cause a nesting bird to do any of the following in a way that would be considered a result of construction activities: vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the exclusionary buffer shall be increased such that activities are far enough from the nest to stop this agitated behavior. The revised no-disturbance buffer will remain in place until the chicks have fledged or as otherwise determined by a qualified biologist in consultation with the City.
 - Construction activities without monitoring may only resume within the no-disturbance buffer after a follow-up survey by the Project Biologist has been conducted and a report has been prepared indicating that the nest (or nests) are no longer active, and that no new nests have been identified.

7.2 Burrowing Owls

The Project is subject to General Plan Policy NE-1.13 which will avoid nest disturbance and loss of bird nests, including burrowing owl, as outlined below:

- NE-1.13 Protect the nests of raptors and other birds when in active use, as required by State and federal regulations. In new development, avoid disturbance to and loss of bird nests in active use by scheduling vegetation removal and new construction during the non-nesting season or by conducting a pre-construction survey by a qualified biologist to confirm nests are absent or to define appropriate buffers until any young have successfully fledged the nest.

To minimize impacts to burrowing owl the following measures shall be implemented:

- A targeted burrowing owl nest survey shall be conducted of all accessible areas within 500 feet of the proposed construction area within 15 days prior to construction activities utilizing 60 foot transects as outlined in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) (Staff Report). If an active burrowing owl nest burrow (i.e., occupied by more than one adult owl, and/or juvenile owls are observed) is found within 250 feet of a construction area, construction shall cease within 250 feet of the nest burrow until the Project Biologist determines that the young have fledged or it is determined that the nesting attempt has failed. If the applicant desires to work within 250 feet

of the nest burrow, the applicant shall consult with CDFW and the City to determine if the nest buffer can be reduced.

- If construction begins during the non-nesting season, (September 1 through the 14 February), the applicant shall conduct a survey for burrows or debris that represent suitable nesting habitat for burrowing owls within areas of proposed ground disturbance. If overwintering owls are located and cannot be avoided, the applicant may exclude any burrowing owls observed and collapse any burrows or remove the debris in accordance with the methodology outlined in the Staff Report. In accordance with the Staff Report, prior to burrow exclusion and/or closure, a Burrowing Owl Exclusion Plan must be developed and approved by CDFW. As outlined in the Staff Report, components of this plan shall include but not be limited to:
 - Confirm by site surveillance that the burrow(s) is empty of burrowing owls and other species preceding burrow scoping;
 - Type of scope and appropriate timing of scoping to avoid impacts;
 - Occupancy factors to look for and what will guide determination of vacancy and excavation timing (one-way doors should be left in place 48 hours to ensure burrowing owls have left the burrow before excavation, visited twice daily and monitored for evidence that owls are inside and can't escape i.e., look for sign immediately inside the door).
 - How the burrow(s) will be excavated. Excavation using hand tools with refilling to prevent reoccupation is preferable whenever possible (may include using piping to stabilize the burrow to prevent collapsing until the entire burrow has been excavated and it can be determined that no owls reside inside the burrow);
 - Removal of other potential owl burrow surrogates or refugia on site;
 - Photographing the excavation and closure of the burrow to demonstrate success and sufficiency;
 - Monitoring of the site to evaluate success and, if needed, to implement remedial measures to prevent subsequent owl use to avoid take; and
 - How the impacted site will continually be made inhospitable to burrowing owls and fossorial mammals (e.g., by allowing vegetation to grow tall, heavy disking, or immediate and continuous grading) until development is complete.
- If any nesting burrowing owls are found during the breeding season pre-construction survey, mitigation for the permanent loss of burrowing owl foraging habitat (defined as all areas of suitable habitat within 250 feet of an active nest burrow) shall be accomplished at a 1:1 ratio. The mitigation provided shall be consistent with recommendations in the CDFW 2012 Staff Report and may be accomplished within the Swainson's Hawk Foraging Habitat mitigation area if burrowing owls have been documented utilizing that area, or if the Project Biologist and the City determine that the area is suitable. The Staff Report recommendations for mitigation land for burrowing owls are as follows:
 - Where habitat will be temporarily disturbed, restore the disturbed area to pre-project condition including decompacting soil and revegetating. Permanent habitat protection may be warranted if there is the potential that the temporary impacts may render a nesting site (nesting burrow and satellite burrows) unsustainable or unavailable depending on the time frame, resulting in reduced survival or abandonment. For the latter potential impact, see the permanent impact measures below.
 - Mitigate for permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat such that the habitat acreage, number of burrows and burrowing owls impacted are replaced based on the information provided in Appendix A. Note: A minimum habitat replacement recommendation is not provided here as it has been shown

to serve as a default, replacing any site-specific analysis and discounting the wide variation in natal area, home range, foraging area, and other factors influencing burrowing owls and burrowing owl population persistence in a particular area.

- Mitigate for permanent impacts to nesting, occupied and satellite burrows and burrowing owl habitat with (a) permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and (b) sufficiently large acreage, and presence of fossorial mammals. The mitigation lands may require habitat enhancements including enhancement or expansion of burrows for breeding, shelter and dispersal opportunity, and removal or control of population stressors. If the mitigation lands are located adjacent to the impacted burrow site, ensure the nearest neighbor artificial or natural burrow clusters are at least within 210 meters (Fisher et al. 2007).
- Permanently protect mitigation land through a conservation easement deeded to a nonprofit conservation organization or public agency with a conservation mission, for the purpose of conserving burrowing owl habitat and prohibiting activities incompatible with burrowing owl use. If the project is located within the service area of a Department approved burrowing owl conservation bank, the project proponent may purchase available burrowing owl conservation bank credits.
- Develop and implement a mitigation land management plan to address long-term ecological sustainability and maintenance of the site for burrowing owls (see Management Plan and Artificial Burrow sections below, if applicable).
- Fund the maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment.
- Habitat should not be altered or destroyed, and burrowing owls should not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to Department-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed.
- Mitigation lands should be on, adjacent or proximate to the impact site where possible and where habitat is sufficient to support burrowing owls present. Where there is insufficient habitat on, adjacent to, or near project sites where burrowing owls will be excluded, acquire mitigation lands with burrowing owl habitat away from the project site. The selection of mitigation lands should then focus on consolidating and enlarging conservation areas located outside of urban and planned growth areas, within foraging distance of other conserved lands. If mitigation lands are not available adjacent to other conserved lands, increase the mitigation land acreage requirement to ensure a selected site is of sufficient size. Offsite mitigation may not adequately offset the biological and habitat values impacted on a one to one basis. Consult with the Department when determining offsite mitigation acreages.
- Evaluate and select suitable mitigation lands based on a comparison of the habitat attributes of the impacted and conserved lands, including but not limited to: type and structure of habitat being impacted or conserved; density of burrowing owls in impacted and conserved habitat; and significance of impacted or conserved habitat to the species range-wide. Mitigate for the highest quality burrowing owl habitat impacted first and foremost when identifying mitigation lands, even if a mitigation site is located outside of a lead agency's jurisdictional boundary, particularly if the lead agency is a city or special district.

- Select mitigation lands taking into account the potential human and wildlife conflicts or incompatibility, including but not limited to, human foot and vehicle traffic, and predation by cats, loose dogs and urban-adapted wildlife, and incompatible species management (i.e., snowy plover).
- Where a burrowing owl population appears to be highly adapted to heavily altered habitats such as golf courses, airports, athletic fields, and business complexes, permanently protecting the land, augmenting the site with artificial burrows, and enhancing and maintaining those areas may enhance sustainability of the burrowing owl population onsite. Maintenance includes keeping lands grazed or mowed with weed eaters or push mowers, free from trees and shrubs, and preventing excessive human and human-related disturbance (e.g., walking, jogging, off-road activity, dog-walking) and loose and feral pets (chasing and, presumably, preying upon owls) that make the environment uninhabitable for burrowing owls.
- If there are no other feasible mitigation options available and a lead agency is willing to establish and oversee a Burrowing Owl Mitigation and Conservation Fund that funds on a competitive basis acquisition and permanent habitat conservation, the project proponent may participate in the lead agency's program.

The Project Area is not expected to contain any nesting burrowing owl as due to the lack of burrowing habitat. However, if any nesting burrowing owls are found during the pre-construction survey, mitigation for the permanent loss of burrowing owl foraging habitat (typically defined as all areas of suitable habitat within 250 feet of the active burrow) can typically be accomplished concurrent with within the Swainson's Hawk Foraging Habitat mitigation (as detailed in **Section 7.3** below).

7.3 Swainson's Hawk

The Proposed Project will result in the loss of 38.4 acre of Swainson's hawk foraging habitat and may impact Swainson's hawk nesting in trees just outside the Project Area.

The Project must be conducted in compliance with the NQSP. The following biological mitigation measures are included in the MMRP and are applicable to resources that occur in the Study Area.

- Swainson's Hawk Mitigation Measure B-F: The following mitigation measure shall be required as part of a subsequent "construction-level" analysis, required before any construction can be implemented. The project will not substantially affect a special-status animal species or species' habitat. To ensure this a breeding survey shall be conducted between April and July in order to:
 - Determine if the species nest on the project site;
 - To develop appropriate mitigation measures, which may include 1:1 replacement ratio of impacted foraging habitat. This replacement habitat should include alfalfa and row crops such as tomatoes, oats, wheat, barley, and sugar beets.

As the HCP has not yet been approved a generally accepted mitigation replacement ratio for foraging habitat is included in the CDFW *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk* (CDFW 2014). These measures allow projects to mitigate for loss of Swainson's hawk foraging habitat to a less than

significant level through the implementation of either site-specific measures reviewed by CDFW or of the following mitigation measure:

- Pursuant to California Department of Fish and Wildlife (CDFW) guidelines, the applicant shall preserve an equal acreage of Swainson's hawk foraging habitat as is proposed for development (approximately 38.4 acres) (i.e., a 1:1 ratio). The preserved habitat shall be at a location approved by the CDFW. Preservation may occur through either:
 - Payment of a mitigation fee to an established mitigation bank, or similar habitat development and management company, or the City of Dixon through a negotiated agreement (subject to approval by CDFW) between the City and the applicant. The monies shall be held in a trust fund, and used to purchase mitigation credits to offset the loss of suitable foraging habitat for Swainson's hawk. The credits would become incorporated into the mitigation bank, owned and operated by the habitat development and management company, and protected in perpetuity (consistent with CDFW guidelines); or
 - Purchase of conservation easements or fee title of lands with suitable Swainson's hawk foraging habitat (consistent with CDFW guidelines).

If mitigation lands or a conservation easement have not been acquired prior to issuance of the building permit or grading permits, whichever occurs first, the City shall hold the applicant's contribution in a separate, interest-bearing account until the appropriate lands are identified (through consultation with CDFW and the City) and acquired by the City or preserved through other methods acceptable to the CDFW. The foregoing funds shall be used to compensate for the loss of Swainson's hawk foraging habitat.

Implementation of this measure would also provide compensation for the loss of foraging habitat for burrowing owl and other special-status raptors that rely on annual grassland foraging habitat.

Additionally, as Swainson's hawk is a state listed endangered species, the Project should be designed to avoid incidental take of the species. In compliance the following General Plan Measure applies:

- NE-1.12 In areas where development (including trails or other improvements) has the potential for adverse effects on special-status species, require project proponents to submit a study conducted by a qualified professional that identifies the presence or absence of special-status species at the proposed development site. If special-status species are determined by the City to be present, require incorporation of appropriate mitigation measures as part of the proposed development prior to final approval.

8.0 REFERENCES

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Figures

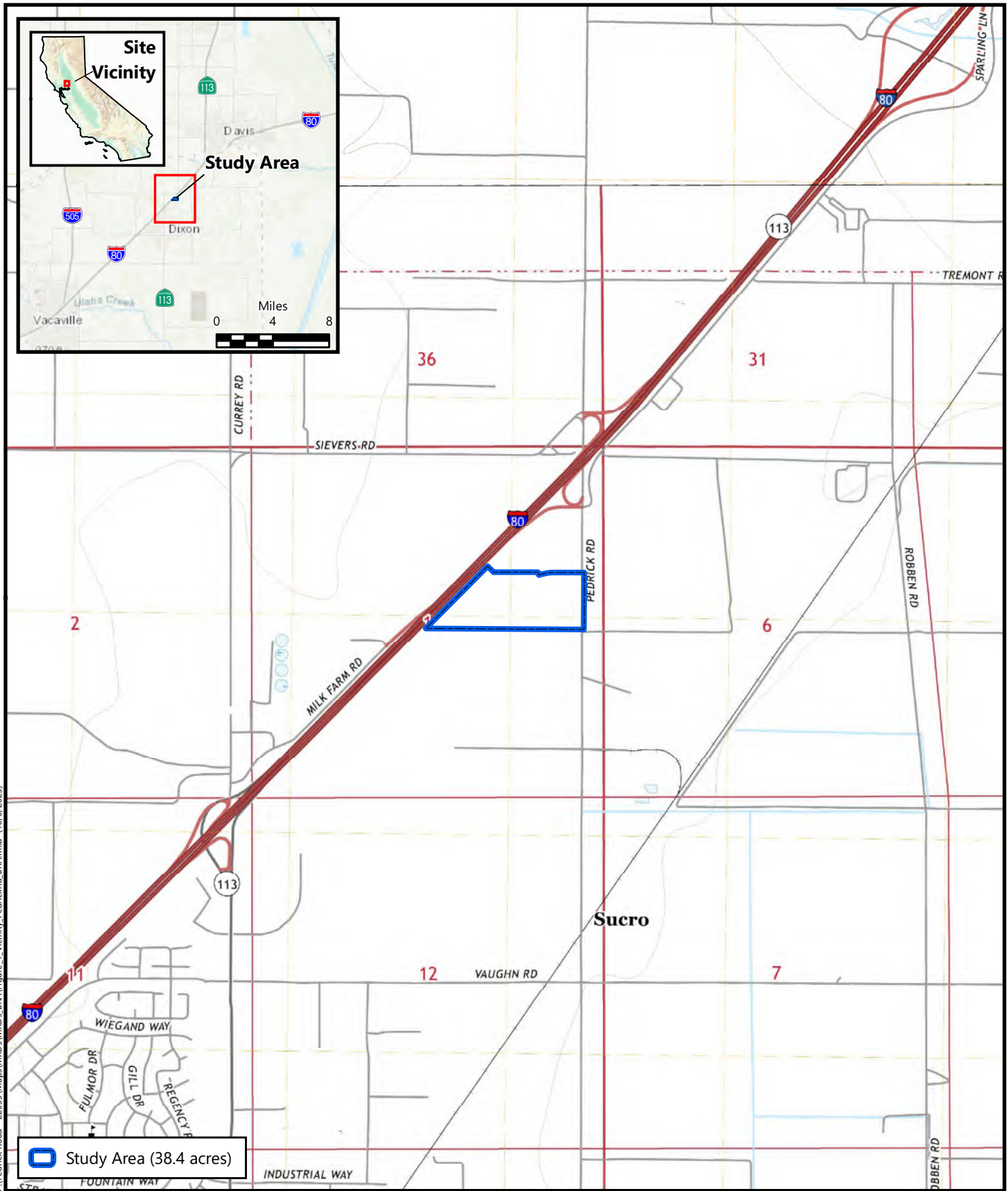
Figure 1. Site and Vicinity

Figure 2. California Natural Diversity Database Occurrences of Plant Species

Figure 3. California Natural Diversity Database Occurrences of Wildlife Species and Critical Habitat

Figure 4. Vegetation Communities

Figure 5. Natural Resources Conservation Service Soils

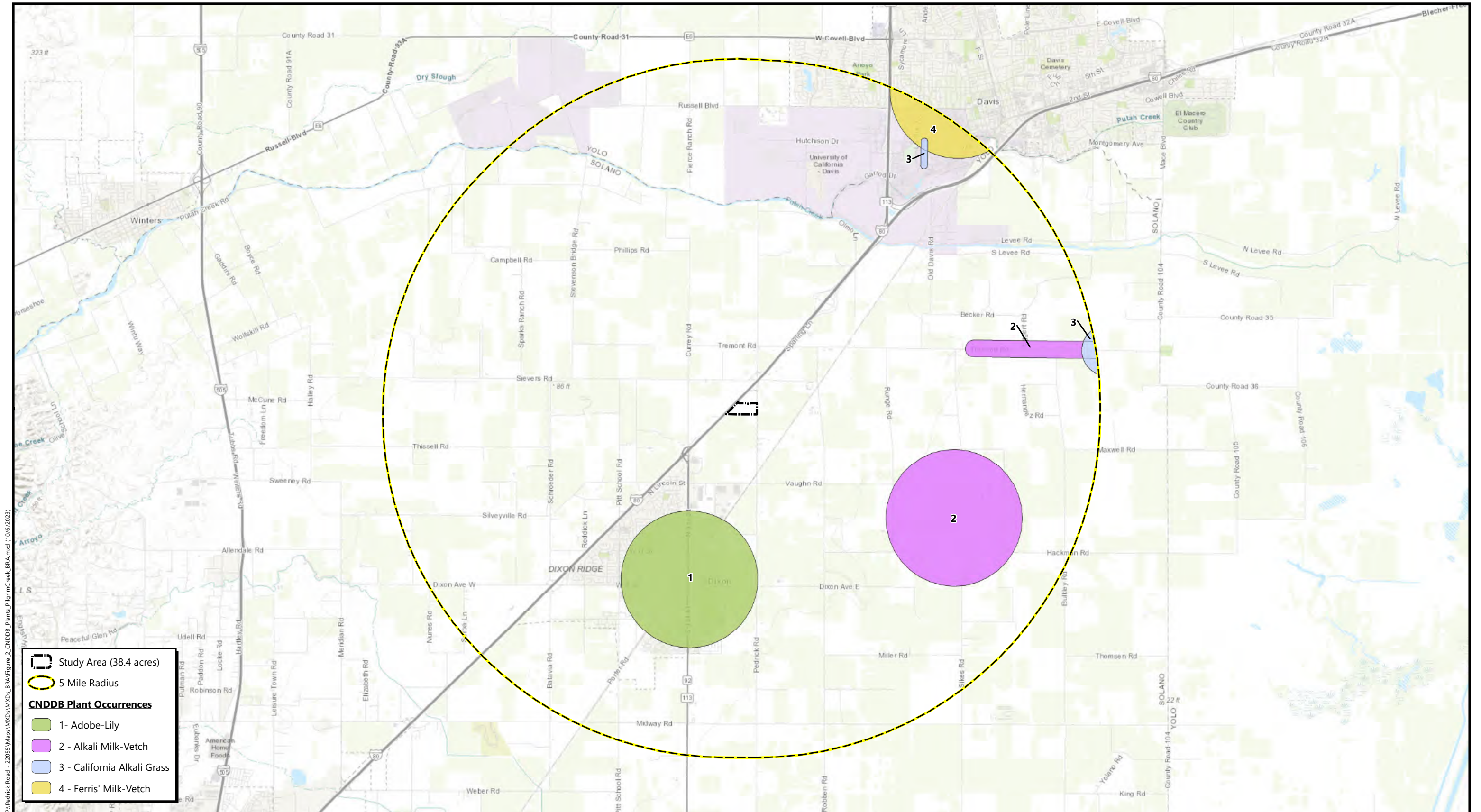


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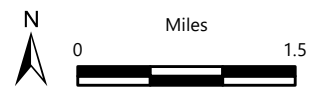
Source: United States Geologic Survey, 2021
 "Dixon, California" 7.5-Minute Topographic Quadrangle
 Section 1, Township 7 North, Range 1 East, MDBM
 Latitude (NAD83): 38.482844°, Longitude (NAD83): -121.807263°

*Pedrick Road
 Dixon, Solano County, California*





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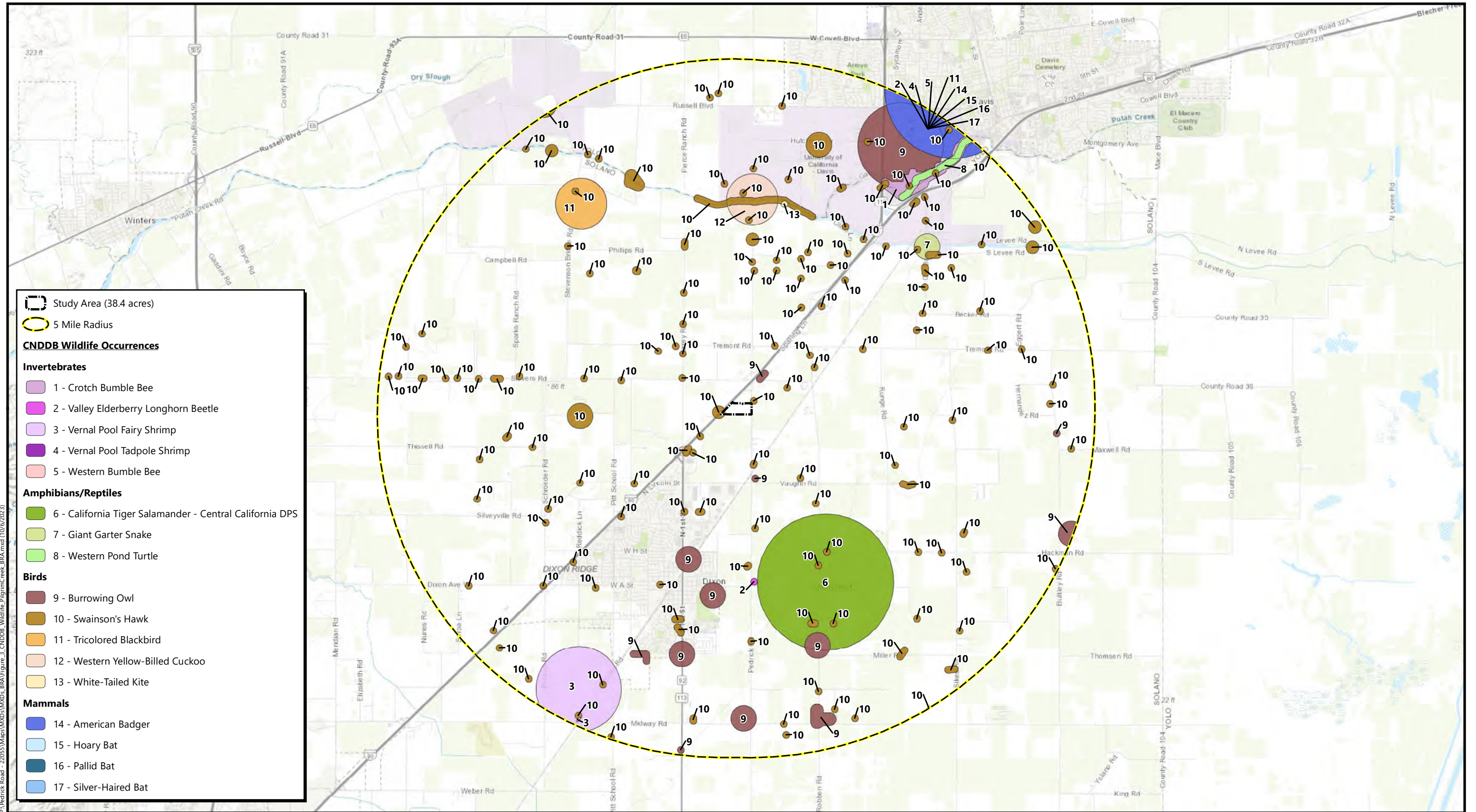


Source: California Department of Fish and Wildlife, October 2023
 Basemap Source: ESRI World Topography

Figure 2
California Natural Diversity Database Occurrences
of Plant Species

Pedrick Road
 Dixon, Solano County, California





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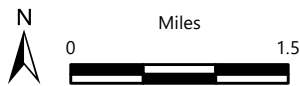
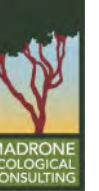


Figure 3
California Natural Diversity Database Occurrences
of Wildlife Species



Source: California Department of Fish and Wildlife, October 2023
 Basemap Source: ESRI World Topography

Pedrick Road
 Dixon, Solano County, California





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 Study Area (38.4 acres)
Vegetation
 Agricultural

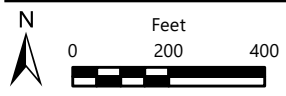


Figure 4
Vegetation Communities


Boundary Source: Morton and Pitalo
 Aerial Source: Maxar, 27 September 2022

Pedrick Road
Dixon, Solano County, California






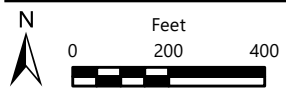


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 Study Area (38.4 acres)

Soil Map Units

-  BrA - Brentwood clay loam, 0 to 2 percent slopes
-  Ca - Capay silty clay loam, 0 percent slopes, MLRA 17
-  Yo - Yolo loam, 0 to 4 percent slopes, MLRA 17



Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for Solano County, California*
 Boundary Source: Morton and Pitalo
 Aerial Source: Maxar, 27 September 2022

Figure 5
Natural Resources Conservation Service Soils

*Pedrick Road
 Dixon, Solano County, California*



Attachments

Attachment A. Site Plan

Attachment B. IPaC Trust Resource Report for the Study Area

Attachment C. CNPS Inventory of Rare and Endangered Plants Query for the "Dixon, California"
USGS Quadrangle and Eight Surrounding Quadrangles

Attachment D. Wildlife Species Observed within the Study Area

Attachment E. Wetland Delineation Report and USACE Verification for the Pedrick Road Property

Attachment A

Site Plan

Attachment B

IPaC Trust Resource Report for the Study Area

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Solano County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

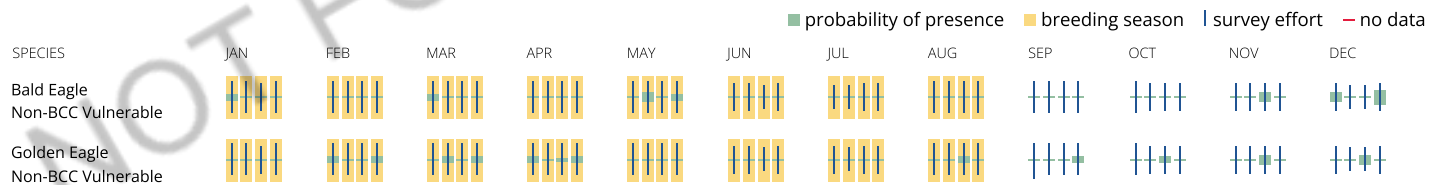
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the [Eagle Act](#) should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Cassin's Finch <i>Carpodacus cassinii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15

Common Yellowthroat <i>Geothlypis trichas sinuosa</i>	Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	
Golden Eagle <i>Aquila chrysaetos</i>	Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	
Lawrence's Goldfinch <i>Carduelis lawrencei</i>	Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	
Nuttall's Woodpecker <i>Picoides nuttallii</i>	Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	
Oak Titmouse <i>Baeolophus inornatus</i>	Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	
Olive-sided Flycatcher <i>Contopus cooperi</i>	Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	
Tricolored Blackbird <i>Agelaius tricolor</i>	Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	
Wrentit <i>Chamaea fasciata</i>	Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Yellow-billed Magpie <i>Pica nuttalli</i>	Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

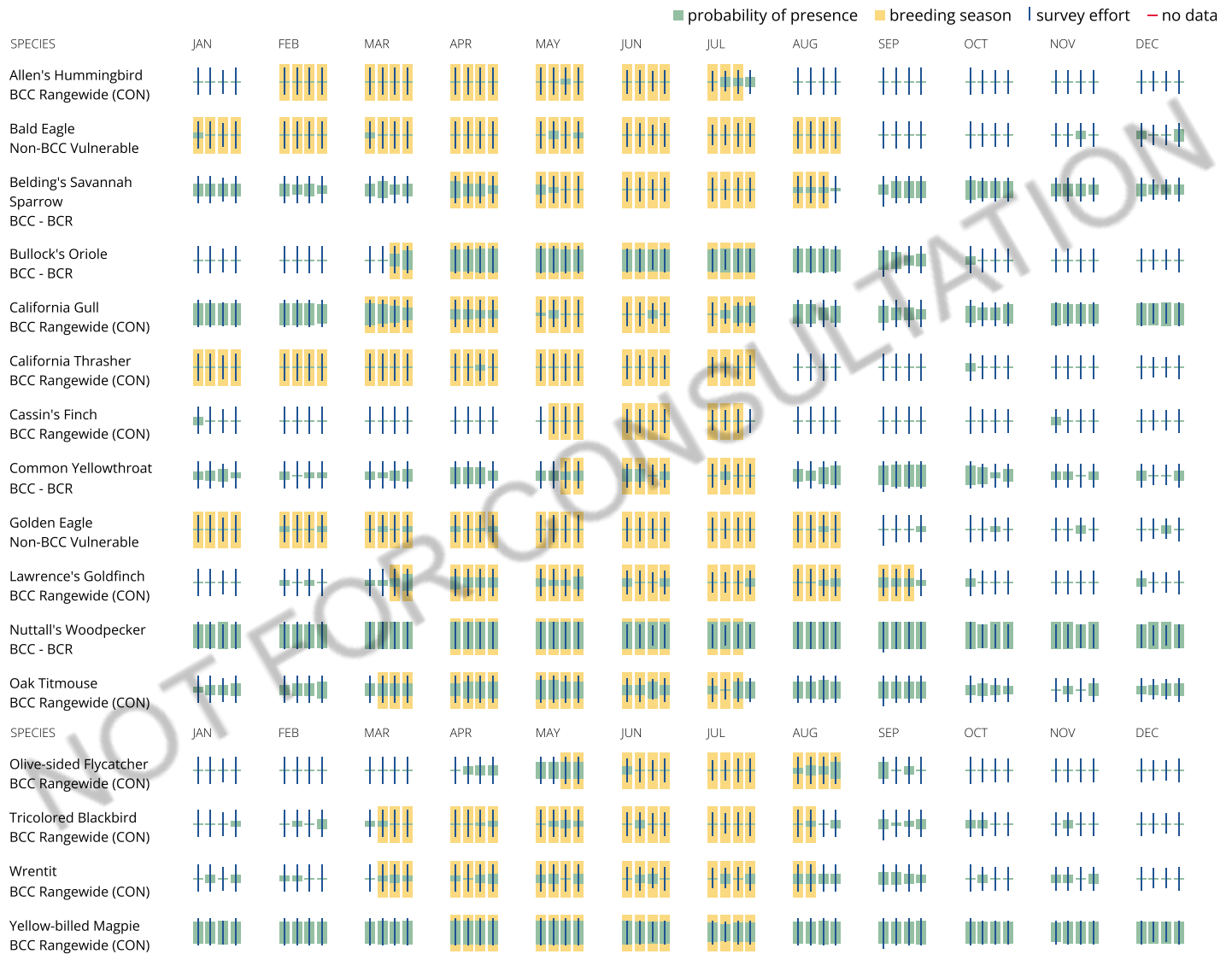
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Attachment C

**CNPS Inventory of Rare and Endangered Plants Query for the
"Dixon, California" USGS Quadrangle and Eight Surrounding Quadrangles Area**

CNPR 9-Quadrangle Search including [3812136:3812147:3812158:3812157:3812156:3812146:3812137:3812138

Scientific Name	Common Name	CRPR	CESA	FESA
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris' milk-vetch	1B.1	None	None
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	1B.2	None	None
<i>Atriplex cordulata</i> var. <i>cordulata</i>	heartscale	1B.2	None	None
<i>Atriplex depressa</i>	brittlescale	1B.2	None	None
<i>Atriplex persistens</i>	vernal pool smallscale	1B.2	None	None
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	1B.2	None	None
<i>Centromadia parryi</i> ssp. <i>rudis</i>	Parry's rough tarplant		4.2 None	None
<i>Chloropyron molle</i> ssp. <i>hispidum</i>	hispid salty bird's-beak	1B.1	None	None
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	2B.1	None	None
<i>Delphinium recurvatum</i>	recurved larkspur	1B.2	None	None
<i>Downingia pusilla</i>	dwarf downingia	2B.2	None	None
<i>Eryngium jepsonii</i>	Jepson's coyote-thistle	1B.2	None	None
<i>Extriplex joaquinana</i>	San Joaquin spearscale	1B.2	None	None
<i>Fritillaria agrestis</i>	stinkbells		4.2 None	None
<i>Fritillaria liliacea</i>	fragrant fritillary	1B.2	None	None
<i>Fritillaria pluriflora</i>	adobe-lily	1B.2	None	None
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	1B.2	CE	None
<i>Hesperervax caulescens</i>	hogwallow starfish		4.2 None	None
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	1B.2	None	None
<i>Isocoma arguta</i>	Carquinez goldenbush	1B.1	None	None
<i>Lasthenia chrysantha</i>	alkali-sink goldfields	1B.1	None	None
<i>Lasthenia conjugens</i>	Contra Costa goldfields	1B.1	None	FE
<i>Lasthenia ferrisiae</i>	Ferris' goldfields		4.2 None	None
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	1B.1	None	None
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tule pea	1B.2	None	None
<i>Legenere limosa</i>	legenere	1B.1	None	None
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	1B.2	None	None
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	1B.1	CR	None
<i>Limosella australis</i>	Delta mudwort	2B.1	None	None
<i>Malacothamnus helleri</i>	Heller's bush-mallow		3.3 None	None
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail		3.1 None	None
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	1B.1	None	None
<i>Neostapfia colusana</i>	Colusa grass	1B.1	CE	FT
<i>Orcuttia inaequalis</i>	San Joaquin Valley Orcutt grass	1B.1	CE	FT
<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	Gairdner's yampah		4.2 None	None
<i>Plagiobothrys hystriculus</i>	bearded popcornflower	1B.1	None	None
<i>Puccinellia simplex</i>	California alkali grass	1B.2	None	None
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	1B.2	None	None
<i>Sidalcea keckii</i>	Keck's checkerbloom	1B.1	None	FE
<i>Symphyotrichum lentum</i>	Suisun Marsh aster	1B.2	None	None
<i>Trifolium amoenum</i>	two-fork clover	1B.1	None	FE
<i>Trifolium hydrophilum</i>	saline clover	1B.2	None	None
<i>Tuctoria mucronata</i>	Crampton's tuctoria or Solano g	1B.1	CE	FE

Attachment D

Wildlife Species Observed within the Study Area

Wildlife Species Observed within
The Study Area

Survey Dates: 15 April 2021 and 2 September 2022

Species Name	Common name
Birds	
<i>Branta canadensis</i>	Canada goose
<i>Buteo swainsoni</i>	Swainson's hawk
<i>Circus hudsonius</i>	Northern harrier
<i>Falco sparverius</i>	American kestrel
<i>Passerculus sandwichensis</i>	Savannah sparrow
<i>Tyrannus verticalis</i>	Western kingbird
<i>Zenaidura macroura</i>	Mourning dove

Attachment E

Wetland Delineation Report and USACE Verification for the Pedrick Road Property



Aquatic Resources Delineation Report

Pedrick Road

Solano County
October 2023



Prepared for:

Bret Hogge
Buzz Oates Construction, Inc.
555 Capitol Mall, Suite 900
Sacramento, CA 95814

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2023. *Aquatic Resources Delineation Report for Pedrick Road*. Prepared for Buzz Oates Construction, Inc. Published on 11 October 2023.

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Pedrick Road**

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- Attachment A. Arid West Wetland Determination Data Forms
- Attachment B. Aquatic Resources Delineation
- Attachment C. Plant Species Observed within the Study Area
- Attachment D. Representative Site Photographs
- Attachment E. Request for Aquatic Resource Verification or Jurisdictional Determination Form

1.0 INTRODUCTION

This report presents the results of a delineation of aquatic resources within the Pedrick Road Property (Study Area) conducted by Madrone Ecological Consulting, LLC (Madrone). The approximately 37-acre Study Area is located south of Highway 80 and east of Pedrick Road in the Town of Dixon, Solano County, California, corresponding to Solano County Assessor's Parcel Number 011-010-080. The Study Area is located in a portion of Section 1, Township 7 North, Range 5 East (MDB&M) of the "Dixon California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2021) at a Latitude 38.482844°, Longitude -121.807263 (Figure 1).

1.1 Contact Information

Property Owner

Bret Hogge
Development Project Manager, Buzz Oats
Construction, LLC
555 Capitol Mall, Suite 900.
Sacramento, CA 95814
brethogge@buzzoates.com
916-379-3854

Agent

Sarah VonderOhe
Madrone Ecological Consulting, LLC
8421 Auburn Blvd., Suite #248
Citrus Heights, CA 95610
SVonderOhe@madroneeco.com
916-822-3225

2.0 METHODOLOGY

Madrone senior biologist Bonnie Peterson conducted a delineation of aquatic resources within the Study Area on 15 April and 2 September 2022. Data points were mapped in the field with a GPS unit capable of sub-meter accuracy (Arrow 100). Three-parameter data (vegetation, soils, and hydrology) were collected at each data point, documenting wetland/waters or upland status, as appropriate. The delineation map was prepared in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a). The GPS data was overlaid on an ortho-rectified aerial photograph (Maxar 2022).

The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands. The most recent *National Wetland Plant List* (USACE 2023) was used to determine the wetland indicator status of plants observed in the Study Area. The *Jepson eFlora* (Jepson Flora Project 2023) was used for plant nomenclature, except where it conflicted with the nomenclature in the *National Wetland Plant List*, which was given priority on the data sheets.

3.0 EXISTING CONDITIONS

The Study Area is comprised of a leveled agricultural land at an elevation of approximately 65-ft above mean sea level. The Study Area is bound by Interstate 80 to the northwest, a stormwater basin and industrial site to the north, Pedrick Road to the east, and agricultural land to the south. The surrounding lands in general represent agricultural lands.

A shallow roadside ditch is located north of the Study Area and is directed through a culvert pipe into a box inlet structure in the northeastern corner of the Study Area. This box culvert drains to an off-site stormwater basin. A similarly shallow roadside feature is observable along Pedrick Road. The Study Area is dry land farmed and has been utilized as a hay field for a number of years and terrestrial plant communities in the Study Area are limited to agricultural lands and with ruderal fringes. During the April 2022 site visit the Study Area had been closely mowed, and by September it had been disked and was minimally vegetated. Scattered walnut trees (*Juglans sp.*) are located along the fringes of the Study Area along the Interstate 80 frontage.

3.1 Terrestrial Plant Communities

3.1.1 Agricultural

Dry farmed areas within the Study Area are regularly mowed and disked and are currently comprised of non-native annual grasses and weedy forbs. The primary crop appears to have been cultivated wheat (*Triticum aestivum*). In addition to the disked wheat, this vegetation community is dominated by tumbleweed (*Amaranthus albus*), Russian thistle (*Salsola tragus*), Johnsongrass (*Sorghum halepense*), common purslane (*Portulaca oleracea*), silver sheath knotweed (*Polygonum argyrocoleon*), alkali mallow (*Malvella leprosa*), filaree (*Erodium botrys*), Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca scariola*), and winter vetch (*Vicia villosa*). Undisturbed areas along Pedrick Road and Highway 80 frontages include perennial ryegrass (*Festuca perennis*), filaree, wintervetch, yellow starthistle (*Centaurea solstitialis*), slender wild oat (*Avena barbata*), and (*Galium aparine*).

3.2 Hydrology

Surface water in the Study Area is driven by natural stormwater runoff and seasonal irrigation. The Study Area is flat without evidence of concentrated flows. A partially blocked roadside ditch along Pedrick Road connects to a drop inlet that drains to a detention basin associated with the industrial property north of the Study Area. The Study Area is located in the Lower American River Watershed (HUC 1802011) (USGS 1978).

3.3 National Wetlands Inventory

The National Wetlands Inventory (NWI) produces and distributes maps and other geospatial data to the public on American wetland and deepwater habitats, as well as monitor changes in these habitats through time as directed by the Emergency Wetlands Resources Act of 1986 (Public Law 99-645). The NWI is primarily compiled through the use of trained image analysts to identify and classify wetlands and deepwater habitats from aerial imagery and is not a substitute for a full field analysis. The NWI has not mapped any wetlands or other aquatic resources within the Study Area (USFWS 2023).

3.4 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2023a), three soil mapping units occur within the Study Area (**Figure 2**): (BrA) Brentwood clay loam, 0 to 2 percent slopes, (Ca) Capay silty clay loam, 0 percent slopes, MLRA 17, and (Yo) 0 to 4 percent slopes, MLRA 17. None of the mapped soil map units are listed in the "Hydric Soils of the United States" (NRCS 2023b) or contain recognized hydric inclusions.

3.5 Driving Directions

To access the Study Area from Sacramento, drive west on Interstate 80 to the Pedrick Road exit. Drive south on Pedrick Road over the freeway and the Study Area is located on the west side of the road.

4.0 RESULTS

No aquatic resources were delineated within the Study Area. Three data points were collected in a shallow roadside ditch along Pedrick Road. This ditch was designed to convey runoff from Pedrick Road into a storm drain inlet in the northeast corner of the Study Area. The ditch was partially blocked to the south and does not appear to convey regular flow as the surrounding land is relatively flat. This concrete drain inlet in the northeast corner of the Study Area receives runoff from a more substantial off-site ditch segment north of the Study Area, and directs these flows into a storm water detention basin. Data points DP-1, DP-2, and DP-3 were collected in the on-site portion of this roadside ditch. The on-site ditch has no OHWM, but is dominated by perennial ryegrass, a non-native annual grass that is classified as a facultative wetland plant species. Therefore, it does meet the wetland dominance test and is classified as containing hydrophytic vegetation. However, the loamy clay soils lacked hydric soil indicators, and are not included on the hydric soils list. The ditch does not meet the tree parameters for wetland status. With the exception of biotic crust at data point DP-1 the ditch lacks hydrology indicators. No evidence of ponding or saturation within the ditch was observed in a review of aerial imagery (Google Earth 2023).

An additional data point (DP-4) was collected in the fallow field based off saturation visible on the July 2021 aerial image (Google Earth 2023). This data point was dominated by weedy upland forbs and lacked hydric soils or wetland hydrology. The saturation visible on the aerial imagery appears to have been irrigation

overflow from the field to the south and not consistent enough support the development of a wetland in this location.

Data sheets are included in **Attachment A**, maps of the Study Area are included as **Figure 3** and **Attachment B**, and a list of the plant species observed in the Study Area with their wetland indicator status is included in **Attachment C**. Representative site photographs are available in **Attachment D**.

5.0 CONCLUSION

No wetlands or other waters were mapped within the Study Area. The shallow roadside ditch does not meet the hydrophytic vegetation, hydric soil, and wetland hydrology criteria outlined by the USACE.

The applicant is requesting an Approved Jurisdictional Determination for the site due to the lack of aquatic resources within the Study Area. The *Request for Aquatic Resource Verification or Jurisdictional Determination Form* is included in **Attachment E**.

6.0 REFERENCES

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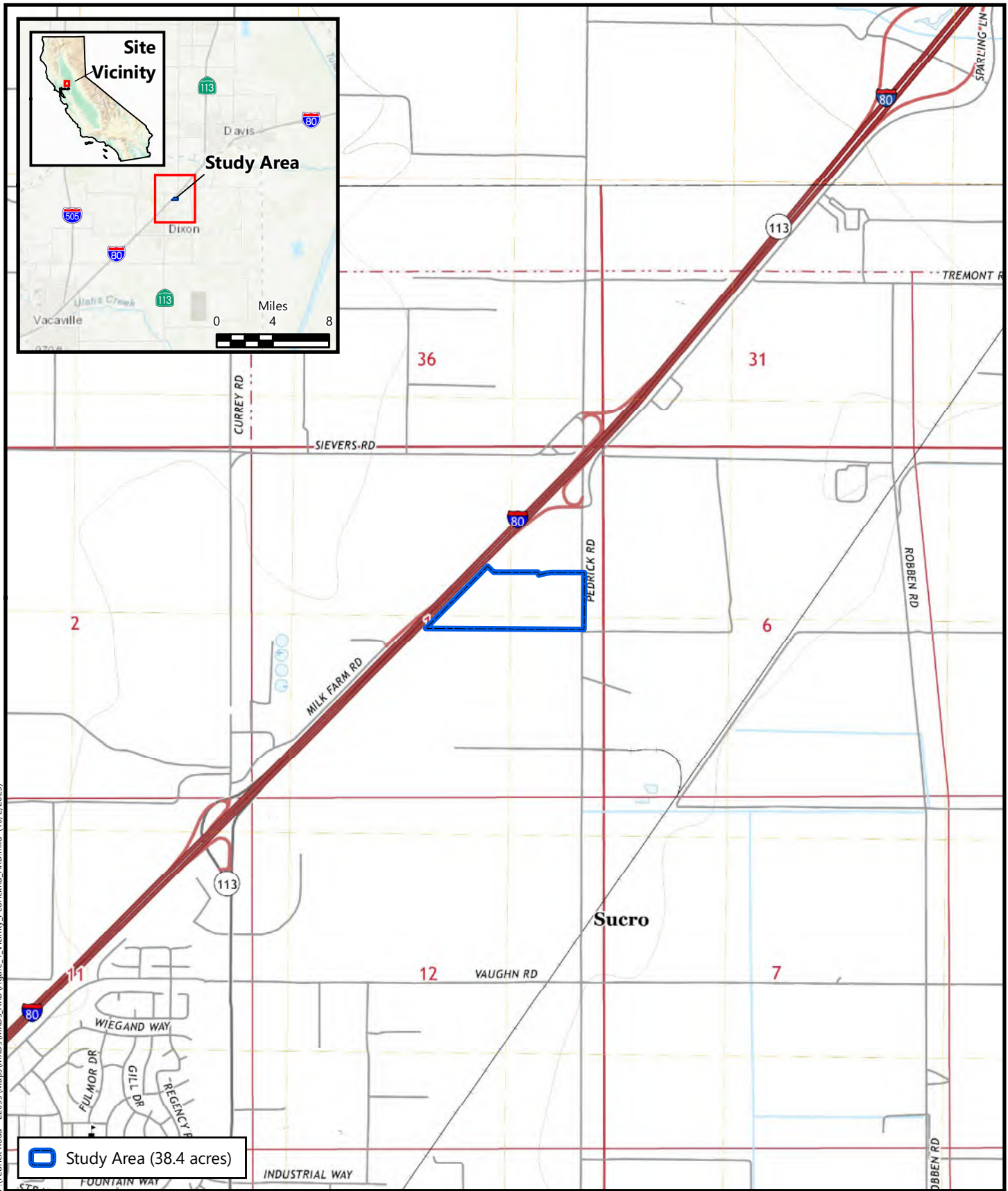
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Figures


Figure 1. Vicinity Map

Figure 2. Natural Resources Conservation Service Soils

Figure 3. Aquatic Resources



P:\Pedrick Road - 220551\Maps\MXD\S\MXD\S\ARD\Figure_1_Vicinity_PedrickRd_AR.D.mxd (10/22/2023)

 Study Area (38.4 acres)

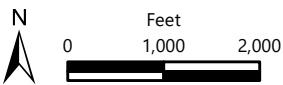


Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2021
 "Dixon, California" 7.5-Minute Topographic Quadrangle
 Section 1, Township 7 North, Range 1 East, MDBM
 Latitude (NAD83): 38.482844°, Longitude (NAD83): -121.807263°

Pedrick Road
Dixon, Solano County, California



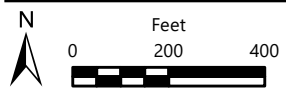


P:\Pedrick Road - 220551\Mapa\MXD\ARD\Figure_2_NRCS_PedrickRd_ARd.mxd (10/2/2023)

Study Area (38.4 acres)

Soil Map Units

- BrA - Brentwood clay loam, 0 to 2 percent slopes
- Ca - Capay silty clay loam, 0 percent slopes, MLRA 17
- Yo - Yolo loam, 0 to 4 percent slopes, MLRA 17



Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for Solano County, California*
 Boundary Source: Morton and Pitalo
 Aerial Source: Maxar, 27 September 2022


Figure 2
Natural Resources Conservation Service Soils

*Pedrick Road
 Dixon, Solano County, California*





P:\Pedrick Road - 220551\Mapa\MXD\MXDs\ARD\Figure_3_AquaticResources_PedrickRd_ARD.mxd (10/11/2023)

 Study Area (38.4 acres)
Aquatic Resources (0.000 acre)
 No Aquatic Resources in Study Area

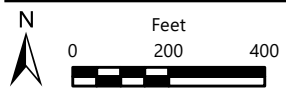


Figure 3
Aquatic Resources

Boundary Source: Morton and Pitalo
Aerial Source: Maxar, 27 September 2022

Pedrick Road
Dixon, Solano County, California



Attachments

Attachment A. Arid West Wetland Determination Data Forms

Attachment B. Aquatic Resources Delineation

Attachment C. Plant Species Observed within the Study Area

Attachment D. Representative Site Photographs

Attachment E. Request for Aquatic Resource Verification or Jurisdictional Determination Form

Attachment A

Arid West Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-1
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Yolo loam, 0 to 4 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch adjacent to a rip rap drop inlet.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Epilobium brachycarpum</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
2. <u><i>Lactuca serriola</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
3. <u><i>Solanum vulgaris</i></u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4. <u><i>Festuca perennis/ Lolium perenne</i></u>	<u>70</u>	<u>Yes</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
90 =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>10</u>		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>75</u>	x 3 =	<u>225</u>
FACU species	<u>5</u>	x 4 =	<u>20</u>
UPL species	<u>10</u>	x 5 =	<u>50</u>
Column Totals:	<u>90</u> (A)		<u>295</u> (B)
Prevalence Index = B/A =			<u>3.28</u>

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4								Rock
4-18	2.5y 3/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-2
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				=Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				=Total Cover
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Brassica nigra</u>	<u>5</u>	No	UPL	
2. <u>Lactuca serriola</u>	<u>5</u>	No	FACU	
3. <u>Centaurea solstitialis</u>	<u>10</u>	No	UPL	
4. <u>Festuca perennis/ Lolium perenne</u>	<u>50</u>	Yes	FAC	
5. <u>Convolvulus arvensis</u>	<u>2</u>	No	UPL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				<u>72</u> =Total Cover
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				=Total Cover
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0</u>		
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 =	<u>0</u>
FACW species <u>0</u>	x 2 =	<u>0</u>
FAC species <u>50</u>	x 3 =	<u>150</u>
FACU species <u>5</u>	x 4 =	<u>20</u>
UPL species <u>17</u>	x 5 =	<u>85</u>
Column Totals: <u>72</u> (A)		<u>255</u> (B)
Prevalence Index = B/A =		<u>3.54</u>

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-18	2.5y 3/1	100				Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-3
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
=Total Cover					
Sapling/Shrub Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Herb Stratum	(Plot size: <u>1 meter sq.</u>)				
1.	<u>Festuca perennis/ Lolium perenne</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
=Total Cover					
Woody Vine Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
=Total Cover					
% Bare Ground in Herb Stratum <u>30</u>		% Cover of Biotic Crust <u>0</u>			
Remarks:					

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species <u>0</u>	<u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	<u>0</u>	x 2 = <u>0</u>
FAC species <u>100</u>	<u>100</u>	x 3 = <u>300</u>
FACU species <u>0</u>	<u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	<u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>300</u> (B)	
Prevalence Index = B/A = <u>3.00</u>		

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5y 3/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-4
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a signature on ariel imagery.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				=Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				=Total Cover
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	1. <u>Amaranthus albus</u>	40	Yes	FACU
2. <u>Portulaca oleracea</u>	5	No	FAC	
3. <u>Malvela leprosa</u>	5	No	FACU	
4. <u>Sorghum halepense</u>	35	Yes	FACU	
5. <u>Convolvulus arvensis</u>	10	No	UPL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				95 =Total Cover
<u>Woody Vine Stratum</u> (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
				=Total Cover
% Bare Ground in Herb Stratum <u>30</u>		% Cover of Biotic Crust <u>0</u>		
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>5</u>	x 3 =	<u>15</u>
FACU species	<u>80</u>	x 4 =	<u>320</u>
UPL species	<u>10</u>	x 5 =	<u>50</u>
Column Totals:	<u>95</u> (A)		<u>385</u> (B)
Prevalence Index = B/A =			<u>4.05</u>

Hydrophytic Vegetation Indicators:
 _____ Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10yr 3/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:
Soils are regularly disked.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Irrigation water present on ariel imagery

Attachment B

Aquatic Resources Delineation

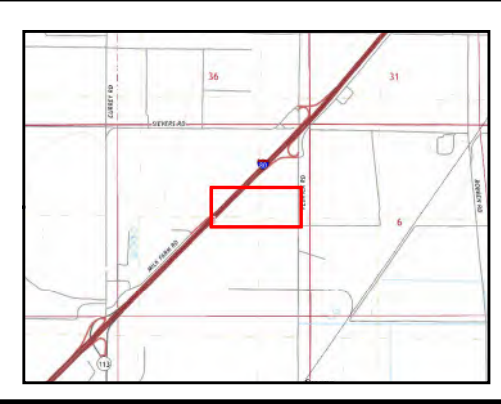


P:\Pedrick Road - 2023\Map\WMS\WMS\MXD\ARDUSACE_AND_PedrickRD.mxd, PedrickRD.mxd, Jswager, 10/11/2023, 14:01

N
 0 50 100 200
 Feet
Map Scale: 1 inch = 100 feet (at 26"x14")
Coordinate System
 NAD 1983 StatePlane California II FIPS 0402 Feet
Sources
Aerial : Maxar, 27 September 2022
Boundary : Morton and Pitalo

Delineation Performed by: B. Peterson
Map Prepared by: J.Swager
Date Map Prepared: 10/11/2023
 Made in accordance with the
*Updated Map and Drawing Standards for the
 South Pacific Division Regulatory Program,*
 as amended on February 10, 2016

Prepared For:
Buzz Oates Construction, Inc.
 555 Capitol Mall Suite 900
 Sacramento, CA 95814



- Study Area (38.4 acres)
- Reference Coordinate (NAD83)
- Data Point

Aquatic Resources (0.000 acre)
 No Aquatic Resources in Study Area

Aquatic Resources Delineation
Pedrick Road
 Dixon, Solano County, California

8421 Auburn Boulevard, Suite 248
 Citrus Heights, California 95610
 (916) 822.3230 | www.madroneeco.com

Attachment C

Plant Species Observed within the Study Area

Plant Species Observed within the Study Area
15 April and 2 September 2022

<u>Species Name</u>	<u>Common Name</u>	<u>Wetland Indicator Status</u>
<i>Carduus pycnocephalus subsp. pycnocephalus</i>	Italian thistle	UPL
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Pseudognaphalium luteoalbum</i>	Pearly everlasting	-
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Amsinckia intermedia</i>	Common fiddleneck	-
<i>Brassica nigra</i>	Black mustard	UPL
<i>Acemison americanus var. americanus</i>	Spanish lotus	UPL
<i>Lupinus bicolor</i>	Miniature lupine	UPL
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Vicia villosa</i>	Hairy vetch, winter vetch	-
<i>Erodium botrys</i>	Filaree	FACU
<i>Geranium dissectum</i>	Cut leaf geranium	UPL
<i>Juncus bufonius var. bufonius</i>	Toad rush	-
<i>Avena barbata</i>	Slender wild oat	UPL
<i>Avena sativa</i>	Cultivated oat	-
<i>Bromus hordeaceus</i>	Soft chess	FACU
<i>Elymus caput-medusae</i>	Medusa head	UPL
<i>Festuca microstachys</i>	Pacific fescue	-
<i>Festuca perennis</i>	Rye grass	FAC
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	FAC
<i>Hordeum murinum subsp. glaucum</i>	Smooth barley	-
<i>Poa annua</i>	Annual blue grass	FAC
<i>Galium aparine</i>	Goose grass	FACU
<i>Amaranthus albus</i>	Tumbleweed	FACU
<i>Centaurea solstitialis</i>	Yellow star-thistle	UPL
<i>Centromadia fitchii</i>	Fitch's spikeweed	-
<i>Raphanus raphanistrum</i>	Jointed charlock	-
<i>Convolvulus arvensis</i>	Bindweed	UPL
<i>Juglans regia</i>	English walnut	UPL
<i>Malvella leprosa</i>	Alkali-mallow	FACU
<i>Epilobium brachycarpum</i>	Panicled willow-herb	UPL
<i>Cynodon dactylon</i>	Bermuda grass	FACU
<i>Sorghum halepense</i>	Johnson grass	FACU
<i>Triticum aestivum</i>	Cultivated wheat	-
<i>Polygonum argyrocoleon</i>	Persian knotweed	-
<i>Polygonum aviculare</i>	Knotweed, knotgrass	-
<i>Rumex crispus</i>	Curly dock	FAC
<i>Portulaca oleracea</i>	Purslane	FAC
<i>Carduus pycnocephalus subsp. pycnocephalus</i>	Italian thistle	UPL

Species Name	Common Name	Wetland Indicator
		Status
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Pseudognaphalium luteoalbum</i>	Pearly everlasting	-
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Amsinckia intermedia</i>	Common fiddleneck	-
<i>Brassica nigra</i>	Black mustard	UPL
<i>Acmispon americanus var. americanus</i>	Spanish lotus	UPL
<i>Lupinus bicolor</i>	Miniature lupine	UPL
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Vicia villosa</i>	Hairy vetch, winter vetch	-
<i>Erodium botrys</i>	Filaree	FACU
<i>Geranium dissectum</i>	Cut leaf geranium	UPL
<i>Juncus bufonius var. bufonius</i>	Toad rush	-

Attachment D

Representative Site Photographs



Photo DP-1 – Photo taken 2 September 2022.



Photo DP-2 – Photo taken 2 September 2022.



Photo DP-3 – Photo taken 2 September 2022.



Photo DP-4 – Photo taken 2 September 2022.



Pedrick Road frontage including shallow roadside ditch– Photo taken 2 September 2022.



Typical upland agricultural field– Photo taken 2 September 2022.

Attachment E

Request for Aquatic Resource Verification or Jurisdictional Determination Form



Aquatic Resources Delineation Report

Pedrick Road

Solano County
October 2023



Prepared for:

Bret Hogge
Buzz Oates Construction, Inc.
555 Capitol Mall, Suite 900
Sacramento, CA 95814

Recommended Citation:

Madrone Ecological Consulting, LLC (Madrone). 2023. *Aquatic Resources Delineation Report for Pedrick Road*. Prepared for Buzz Oates Construction, Inc. Published on 11 October 2023.

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Pedrick Road**

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- Figure 1. Vicinity Map
- Figure 2. Natural Resources Conservation Service Soils
- Figure 3. Aquatic Resources

Attachments:

- Attachment A. Arid West Wetland Determination Data Forms
- Attachment B. Aquatic Resources Delineation
- Attachment C. Plant Species Observed within the Study Area
- Attachment D. Representative Site Photographs
- Attachment E. Request for Aquatic Resource Verification or Jurisdictional Determination Form

1.0 INTRODUCTION

This report presents the results of a delineation of aquatic resources within the Pedrick Road Property (Study Area) conducted by Madrone Ecological Consulting, LLC (Madrone). The approximately 37-acre Study Area is located south of Highway 80 and east of Pedrick Road in the Town of Dixon, Solano County, California, corresponding to Solano County Assessor's Parcel Number 011-010-080. The Study Area is located in a portion of Section 1, Township 7 North, Range 5 East (MDB&M) of the "Dixon California" 7.5-Minute Series USGS Topographic Quadrangle (USGS 2021) at a Latitude 38.482844°, Longitude -121.807263 (Figure 1).

1.1 Contact Information

Property Owner

Bret Hogge
Development Project Manager, Buzz Oats
Construction, LLC
555 Capitol Mall, Suite 900.
Sacramento, CA 95814
brethogge@buzzoates.com
916-379-3854

Agent

Sarah VonderOhe
Madrone Ecological Consulting, LLC
8421 Auburn Blvd., Suite #248
Citrus Heights, CA 95610
SVonderOhe@madroneeco.com
916-822-3225

2.0 METHODOLOGY

Madrone senior biologist Bonnie Peterson conducted a delineation of aquatic resources within the Study Area on 15 April and 2 September 2022. Data points were mapped in the field with a GPS unit capable of sub-meter accuracy (Arrow 100). Three-parameter data (vegetation, soils, and hydrology) were collected at each data point, documenting wetland/waters or upland status, as appropriate. The delineation map was prepared in accordance with the *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a). The GPS data was overlaid on an ortho-rectified aerial photograph (Maxar 2022).

The delineation was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and the Sacramento District's *Minimum Standards for Acceptance of Preliminary Wetlands Delineations* (USACE 2016b). U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328) were used to determine the presence of Waters of the United States other than wetlands. The most recent *National Wetland Plant List* (USACE 2023) was used to determine the wetland indicator status of plants observed in the Study Area. The *Jepson eFlora* (Jepson Flora Project 2023) was used for plant nomenclature, except where it conflicted with the nomenclature in the *National Wetland Plant List*, which was given priority on the data sheets.

3.0 EXISTING CONDITIONS

The Study Area is comprised of a leveled agricultural land at an elevation of approximately 65-ft above mean sea level. The Study Area is bound by Interstate 80 to the northwest, a stormwater basin and industrial site to the north, Pedrick Road to the east, and agricultural land to the south. The surrounding lands in general represent agricultural lands.

A shallow roadside ditch is located north of the Study Area and is directed through a culvert pipe into a box inlet structure in the northeastern corner of the Study Area. This box culvert drains to an off-site stormwater basin. A similarly shallow roadside feature is observable along Pedrick Road. The Study Area is dry land farmed and has been utilized as a hay field for a number of years and terrestrial plant communities in the Study Area are limited to agricultural lands and with ruderal fringes. During the April 2022 site visit the Study Area had been closely mowed, and by September it had been disked and was minimally vegetated. Scattered walnut trees (*Juglans sp.*) are located along the fringes of the Study Area along the Interstate 80 frontage.

3.1 Terrestrial Plant Communities

3.1.1 Agricultural

Dry farmed areas within the Study Area are regularly mowed and disked and are currently comprised of non-native annual grasses and weedy forbs. The primary crop appears to have been cultivated wheat (*Triticum aestivum*). In addition to the disked wheat, this vegetation community is dominated by tumbleweed (*Amaranthus albus*), Russian thistle (*Salsola tragus*), Johnsongrass (*Sorghum halepense*), common purslane (*Portulaca oleracea*), silver sheath knotweed (*Polygonum argyrocoleon*), alkali mallow (*Malvella leprosa*), filaree (*Erodium botrys*), Bermuda grass (*Cynodon dactylon*), prickly lettuce (*Lactuca serriola*), and winter vetch (*Vicia villosa*). Undisturbed areas along Pedrick Road and Highway 80 frontages include perennial ryegrass (*Festuca perennis*), filaree, wintervetch, yellow starthistle (*Centaurea solstitialis*), slender wild oat (*Avena barbata*), and (*Galium aparine*).

3.2 Hydrology

Surface water in the Study Area is driven by natural stormwater runoff and seasonal irrigation. The Study Area is flat without evidence of concentrated flows. A partially blocked roadside ditch along Pedrick Road connects to a drop inlet that drains to a detention basin associated with the industrial property north of the Study Area. The Study Area is located in the Lower American River Watershed (HUC 1802011) (USGS 1978).

3.3 National Wetlands Inventory

The National Wetlands Inventory (NWI) produces and distributes maps and other geospatial data to the public on American wetland and deepwater habitats, as well as monitor changes in these habitats through time as directed by the Emergency Wetlands Resources Act of 1986 (Public Law 99-645). The NWI is primarily compiled through the use of trained image analysts to identify and classify wetlands and deepwater habitats from aerial imagery and is not a substitute for a full field analysis. The NWI has not mapped any wetlands or other aquatic resources within the Study Area (USFWS 2023).

3.4 Soils

According to the Natural Resources Conservation Service (NRCS) Soil Survey Database (NRCS 2023a), three soil mapping units occur within the Study Area (**Figure 2**): (BrA) Brentwood clay loam, 0 to 2 percent slopes, (Ca) Capay silty clay loam, 0 percent slopes, MLRA 17, and (Yo) 0 to 4 percent slopes, MLRA 17. None of the mapped soil map units are listed in the "Hydric Soils of the United States" (NRCS 2023b) or contain recognized hydric inclusions.

3.5 Driving Directions

To access the Study Area from Sacramento, drive west on Interstate 80 to the Pedrick Road exit. Drive south on Pedrick Road over the freeway and the Study Area is located on the west side of the road.

4.0 RESULTS

No aquatic resources were delineated within the Study Area. Three data points were collected in a shallow roadside ditch along Pedrick Road. This ditch was designed to convey runoff from Pedrick Road into a storm drain inlet in the northeast corner of the Study Area. The ditch was partially blocked to the south and does not appear to convey regular flow as the surrounding land is relatively flat. This concrete drain inlet in the northeast corner of the Study Area receives runoff from a more substantial off-site ditch segment north of the Study Area, and directs these flows into a storm water detention basin. Data points DP-1, DP-2, and DP-3 were collected in the on-site portion of this roadside ditch. The on-site ditch has no OHWM, but is dominated by perennial ryegrass, a non-native annual grass that is classified as a facultative wetland plant species. Therefore, it does meet the wetland dominance test and is classified as containing hydrophytic vegetation. However, the loamy clay soils lacked hydric soil indicators, and are not included on the hydric soils list. The ditch does not meet the tree parameters for wetland status. With the exception of biotic crust at data point DP-1 the ditch lacks hydrology indicators. No evidence of ponding or saturation within the ditch was observed in a review of aerial imagery (Google Earth 2023).

An additional data point (DP-4) was collected in the fallow field based off saturation visible on the July 2021 aerial image (Google Earth 2023). This data point was dominated by weedy upland forbs and lacked hydric soils or wetland hydrology. The saturation visible on the aerial imagery appears to have been irrigation

overflow from the field to the south and not consistent enough support the development of a wetland in this location.

Data sheets are included in **Attachment A**, maps of the Study Area are included as **Figure 3** and **Attachment B**, and a list of the plant species observed in the Study Area with their wetland indicator status is included in **Attachment C**. Representative site photographs are available in **Attachment D**.

5.0 CONCLUSION

No wetlands or other waters were mapped within the Study Area. The shallow roadside ditch does not meet the hydrophytic vegetation, hydric soil, and wetland hydrology criteria outlined by the USACE.

The applicant is requesting an Approved Jurisdictional Determination for the site due to the lack of aquatic resources within the Study Area. The *Request for Aquatic Resource Verification or Jurisdictional Determination Form* is included in **Attachment E**.

6.0 REFERENCES

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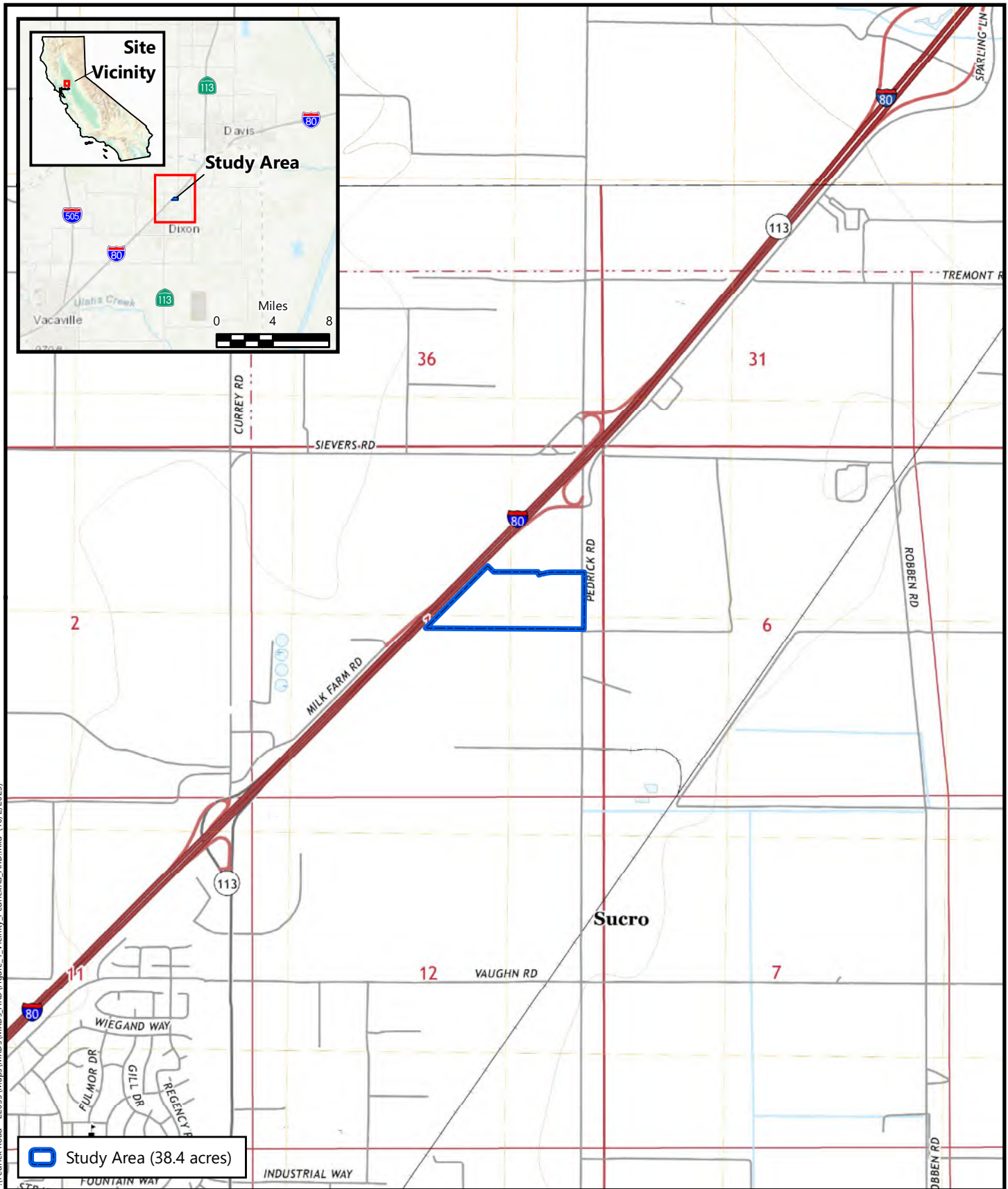
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Figures

Figure 1. Vicinity Map

Figure 2. Natural Resources Conservation Service Soils

Figure 3. Aquatic Resources



P:\Pedrick Road - 220551\Maps\MXD\S\MXD\S\ARD\Figure_1_Vicinity_PedrickRd_AR.D.mxd (10/2/2023)


 Study Area (38.4 acres)



Figure 1
Site and Vicinity

Source: United States Geologic Survey, 2021
 "Dixon, California" 7.5-Minute Topographic Quadrangle
 Section 1, Township 7 North, Range 1 East, MDBM
 Latitude (NAD83): 38.482844°, Longitude (NAD83): -121.807263°

Pedrick Road
 Dixon, Solano County, California



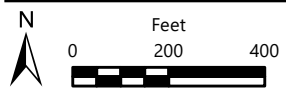


P:\Pedrick Road - 220551\Mapa\MXD\ARD\Figure_2_NRCS_PedrickRd_ARd.mxd (10/2/2023)

Study Area (38.4 acres)

Soil Map Units

- BrA - Brentwood clay loam, 0 to 2 percent slopes
- Ca - Capay silty clay loam, 0 percent slopes, MLRA 17
- Yo - Yolo loam, 0 to 4 percent slopes, MLRA 17



Soil Survey Source: *USDA, Soil Conservation Service. Soil Survey Geographic (SSURGO) database for Solano County, California*
 Boundary Source: Morton and Pitalo
 Aerial Source: Maxar, 27 September 2022


Figure 2
Natural Resources Conservation Service Soils

*Pedrick Road
 Dixon, Solano County, California*





P:\Pedrick Road - 220551\Mapa\MXD\MXDs\ARD\Figure_3_AquaticResources_PedrickRd_ARD.mxd (10/11/2023)

 Study Area (38.4 acres)
Aquatic Resources (0.000 acre)
 No Aquatic Resources in Study Area

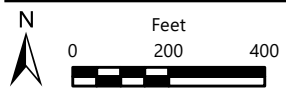


Figure 3
Aquatic Resources

Boundary Source: Morton and Pitalo
Aerial Source: Maxar, 27 September 2022

Pedrick Road
Dixon, Solano County, California



Attachments

Attachment A. Arid West Wetland Determination Data Forms

Attachment B. Aquatic Resources Delineation

Attachment C. Plant Species Observed within the Study Area

Attachment D. Representative Site Photographs

Attachment E. Request for Aquatic Resource Verification or Jurisdictional Determination Form

Attachment A

Arid West Wetland Determination Data Forms

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-1
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Yolo loam, 0 to 4 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch adjacent to a rip rap drop inlet.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>Epilobium brachycarpum</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
2. <u><i>Lactuca serriola</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
3. <u><i>Solanum vulgaris</i></u>	<u>10</u>	<u>No</u>	<u>UPL</u>	
4. <u><i>Festuca perennis/ Lolium perenne</i></u>	<u>70</u>	<u>Yes</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
90 =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>10</u>		
Remarks:				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>75</u>	x 3 =	<u>225</u>
FACU species	<u>5</u>	x 4 =	<u>20</u>
UPL species	<u>10</u>	x 5 =	<u>50</u>
Column Totals:	<u>90</u> (A)		<u>295</u> (B)
Prevalence Index = B/A = <u>3.28</u>			

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4								Rock
4-18	2.5y 3/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-2
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
					=Total Cover
Sapling/Shrub Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
					=Total Cover
Herb Stratum	(Plot size: <u>1 meter sq.</u>)				
1.	<u>Brassica nigra</u>	<u>5</u>	No	UPL	
2.	<u>Lactuca serriola</u>	<u>5</u>	No	FACU	
3.	<u>Centaurea solstitialis</u>	<u>10</u>	No	UPL	
4.	<u>Festuca perennis/ Lolium perenne</u>	<u>50</u>	Yes	FAC	
5.	<u>Convolvulus arvensis</u>	<u>2</u>	No	UPL	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
					<u>72</u> =Total Cover
Woody Vine Stratum	(Plot size: _____)				
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
					=Total Cover
% Bare Ground in Herb Stratum <u>0</u>		% Cover of Biotic Crust <u>0</u>			
Remarks:					

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>50</u>	x 3 =	<u>150</u>
FACU species	<u>5</u>	x 4 =	<u>20</u>
UPL species	<u>17</u>	x 5 =	<u>85</u>
Column Totals:	<u>72</u> (A)		<u>255</u> (B)
Prevalence Index = B/A =			<u>3.54</u>

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
 _____ Prevalence Index is ≤3.0¹
 _____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	2.5y 3/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-3
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 2
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a roadside ditch.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				=Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				=Total Cover
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Festuca perennis/ Lolium perenne</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				=Total Cover
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				=Total Cover
% Bare Ground in Herb Stratum <u>30</u>		% Cover of Biotic Crust <u>0</u>		
Remarks:				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species <u>0</u>	<u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	<u>0</u>	x 2 = <u>0</u>
FAC species <u>100</u>	<u>100</u>	x 3 = <u>300</u>
FACU species <u>0</u>	<u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	<u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>100</u>	<u>300</u> (B)
Prevalence Index = B/A = <u>3.00</u>		

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

_____ Prevalence Index is ≤3.0¹

_____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	2.5y 3/1	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
 See ERDC/EL TR-08-28; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Pedrick Road City/County: Dixon, Solano County Sampling Date: 9/2/2022
 Applicant/Owner: Buzz Oats Construction State: _____ Sampling Point: DP-4
 Investigator(s): Bonnie Peterson Section, Township, Range: Section 10, Township 11 North, Range 6 East.
 Landform (hillside, terrace, etc.): Valley floor Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: Capay silty clay loam, 0 percent slopes, MLRA 17 NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Point selected in a signature on ariel imagery.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				=Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				=Total Cover
<u>Herb Stratum</u> (Plot size: <u>1 meter sq.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Amaranthus albus</u>	40	Yes	FACU	
2. <u>Portulaca oleracea</u>	5	No	FAC	
3. <u>Malvela leprosa</u>	5	No	FACU	
4. <u>Sorghum halepense</u>	35	Yes	FACU	
5. <u>Convolvulus arvensis</u>	10	No	UPL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				95 =Total Cover
<u>Woody Vine Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				=Total Cover
% Bare Ground in Herb Stratum <u>30</u>		% Cover of Biotic Crust <u>0</u>		
Remarks:				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>5</u>	x 3 =	<u>15</u>
FACU species	<u>80</u>	x 4 =	<u>320</u>
UPL species	<u>10</u>	x 5 =	<u>50</u>
Column Totals:	<u>95</u> (A)		<u>385</u> (B)
Prevalence Index = B/A =			<u>4.05</u>

Hydrophytic Vegetation Indicators:

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0¹

_____ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10yr 3/2	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks:
Soils are regularly disked.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Irrigation water present on ariel imagery

Attachment B

Aquatic Resources Delineation



P:\Pedrick Road - 2025\Map\WMS\MXD\ARDUSACE_AND_PedrickRD.mxd, swager, 10/17/2023, 14:01

Map Scale: 1 inch = 100 feet (at 26"x14")

Coordinate System

 NAD 1983 StatePlane California II FIPS 0402 Feet

Sources

Aerial : Maxar, 27 September 2022

Boundary : Morton and Pitalo

Delineation Performed by: B. Peterson

Map Prepared by: J.Swager

Date Map Prepared: 10/11/2023

 Made in accordance with the

Updated Map and Drawing Standards for the

South Pacific Division Regulatory Program,

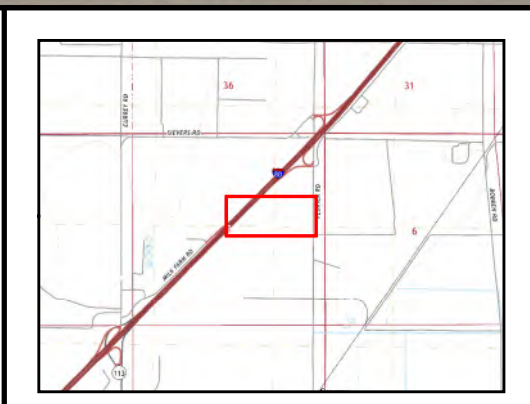
 as amended on February 10, 2016

Prepared For:

Buzz Oates Construction, Inc.

 555 Capitol Mall Suite 900

 Sacramento, CA 95814



- Study Area (38.4 acres)
- Reference Coordinate (NAD83)
- Data Point

Aquatic Resources (0.000 acre)

 No Aquatic Resources in Study Area

Aquatic Resources Delineation

Pedrick Road

 Dixon, Solano County, California

8421 Auburn Boulevard, Suite 248

 Citrus Heights, California 95610

 (916) 822.3230 | www.madroneeco.com

Attachment C

Plant Species Observed within the Study Area

**Plant Species Observed within the Study Area
15 April and 2 September 2022**

<u>Species Name</u>	<u>Common Name</u>	<u>Wetland Indicator Status</u>
<i>Carduus pycnocephalus subsp. pycnocephalus</i>	Italian thistle	UPL
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Pseudognaphalium luteoalbum</i>	Pearly everlasting	-
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Amsinckia intermedia</i>	Common fiddleneck	-
<i>Brassica nigra</i>	Black mustard	UPL
<i>Acemison americanus var. americanus</i>	Spanish lotus	UPL
<i>Lupinus bicolor</i>	Miniature lupine	UPL
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Vicia villosa</i>	Hairy vetch, winter vetch	-
<i>Erodium botrys</i>	Filaree	FACU
<i>Geranium dissectum</i>	Cut leaf geranium	UPL
<i>Juncus bufonius var. bufonius</i>	Toad rush	-
<i>Avena barbata</i>	Slender wild oat	UPL
<i>Avena sativa</i>	Cultivated oat	-
<i>Bromus hordeaceus</i>	Soft chess	FACU
<i>Elymus caput-medusae</i>	Medusa head	UPL
<i>Festuca microstachys</i>	Pacific fescue	-
<i>Festuca perennis</i>	Rye grass	FAC
<i>Hordeum marinum subsp. gussoneanum</i>	Mediterranean barley	FAC
<i>Hordeum murinum subsp. glaucum</i>	Smooth barley	-
<i>Poa annua</i>	Annual blue grass	FAC
<i>Galium aparine</i>	Goose grass	FACU
<i>Amaranthus albus</i>	Tumbleweed	FACU
<i>Centaurea solstitialis</i>	Yellow star-thistle	UPL
<i>Centromadia fitchii</i>	Fitch's spikeweed	-
<i>Raphanus raphanistrum</i>	Jointed charlock	-
<i>Convolvulus arvensis</i>	Bindweed	UPL
<i>Juglans regia</i>	English walnut	UPL
<i>Malvella leprosa</i>	Alkali-mallow	FACU
<i>Epilobium brachycarpum</i>	Panicled willow-herb	UPL
<i>Cynodon dactylon</i>	Bermuda grass	FACU
<i>Sorghum halepense</i>	Johnson grass	FACU
<i>Triticum aestivum</i>	Cultivated wheat	-
<i>Polygonum argyrocoleon</i>	Persian knotweed	-
<i>Polygonum aviculare</i>	Knotweed, knotgrass	-
<i>Rumex crispus</i>	Curly dock	FAC
<i>Portulaca oleracea</i>	Purslane	FAC
<i>Carduus pycnocephalus subsp. pycnocephalus</i>	Italian thistle	UPL

Species Name	Common Name	Wetland Indicator
		Status
<i>Lactuca serriola</i>	Prickly lettuce	FACU
<i>Pseudognaphalium luteoalbum</i>	Pearly everlasting	-
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Amsinckia intermedia</i>	Common fiddleneck	-
<i>Brassica nigra</i>	Black mustard	UPL
<i>Acmispon americanus var. americanus</i>	Spanish lotus	UPL
<i>Lupinus bicolor</i>	Miniature lupine	UPL
<i>Trifolium hirtum</i>	Rose clover	UPL
<i>Vicia villosa</i>	Hairy vetch, winter vetch	-
<i>Erodium botrys</i>	Filaree	FACU
<i>Geranium dissectum</i>	Cut leaf geranium	UPL
<i>Juncus bufonius var. bufonius</i>	Toad rush	-

Attachment D

Representative Site Photographs



Photo DP-1 – Photo taken 2 September 2022.



Photo DP-2 – Photo taken 2 September 2022.



Photo DP-3 – Photo taken 2 September 2022.



Photo DP-4 – Photo taken 2 September 2022.



Pedrick Road frontage including shallow roadside ditch– Photo taken 2 September 2022.



Typical upland agricultural field– Photo taken 2 September 2022.

Attachment E

Request for Aquatic Resource Verification or Jurisdictional Determination Form

REQUEST FOR AQUATIC RESOURCES DELINEATION VERIFICATION
OR JURISDICTIONAL DETERMINATION

A separate jurisdictional determination (JD) is not necessary to process a permit. An Approved Jurisdictional Determination (AJD) is required to definitively determine the extent of waters of the U.S. and is generally used to disclaim jurisdiction over aquatic resources that are not waters of the U.S., in cases where the review area contains no aquatic resources, and in cases when the recipient wishes to challenge the water of the U.S. determination on appeal. Either an Aquatic Resources Delineation Verification or a Preliminary Jurisdictional Determination (PJD) may be used when the recipient wishes to assume that aquatic resources are waters of the U.S. for the purposes of permitting. In some circumstances an AJD may require more information, a greater level of effort, and more time to produce. If you are unsure which product to request, please speak with your project manager or call the Sacramento District's general information line at (916) 557-5250.

I am requesting the product indicated below from the U.S. Army Corps of Engineers, Sacramento District, for the review area located at:

Street Address: <u>Pedrick Road</u> City: <u>Dixon</u> County: <u>Solano</u>	
State: <u>CA</u> Zip: <u>95620</u> Section: <u>1</u> Township: <u>7 North</u> Range: <u>5 East</u>	
Latitude (decimal degrees): <u>38.482844</u> Longitude (decimal degrees): <u>-121.807263</u>	
The approximate size of the review area for the JD is <u>37</u> acres. (Please attach location map)	
Choose one: <input checked="" type="radio"/> I own the review area <input type="radio"/> I hold an easement or development rights over the review area <input type="radio"/> I lease the review area <input type="radio"/> I plan to purchase the review area <input type="radio"/> I am an agent/consultant acting on behalf of the requestor <input type="radio"/> Other: _____	Choose one product: <input checked="" type="radio"/> I am requesting an Aquatic Resources Delineation Verification <input type="radio"/> I am requesting an Approved JD <input type="radio"/> I am requesting a Preliminary JD <input type="radio"/> I am requesting additional information to inform my decision about which product to request
Reason for request: (check all that apply)	
<input type="checkbox"/> I need information concerning aquatic resources within the review area for planning purposes.	
<input type="checkbox"/> I intend to construct/develop a project or perform activities in this review area which would be designed to avoid all aquatic resources.	
<input type="checkbox"/> I intend to construct/develop a project or perform activities in this review area which would be designed to avoid those aquatic resources determined to be waters of the U.S.	
<input type="checkbox"/> I intend to construct/develop a project or perform activities in this review area which may require authorization from the Corps; this request is accompanied by my permit application.	
<input type="checkbox"/> I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district's list of navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and/or is subject to the ebb and flow of the tide.	
<input type="checkbox"/> My lender, insurer, investors, local unit of government, etc. has indicated that an aquatic resources delineation verification is inadequate and is requiring a jurisdictional determination.	
<input type="checkbox"/> I intend to contest jurisdiction over particular aquatic resources and request the Corps confirm that these aquatic resources are or are not waters of the U.S.	
<input checked="" type="checkbox"/> I believe that the review area may be comprised entirely of dry land.	
<input type="checkbox"/> Other: _____	
Attached Information:	
<input checked="" type="checkbox"/> Maps depicting the general location and aquatic resources within the review area consistent with Map and Drawing Standards for the South Pacific Division Regulatory Program (Public Notice February 2016, http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/)	
<input checked="" type="checkbox"/> Aquatic Resources Delineation Report, if available, consistent with the Sacramento District's Minimum Standards for Acceptance (Public Notice January 2016, http://1.usa.gov/1V68lYa)	
By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the review area. Your signature shall be an affirmation that you possess the requisite property rights for this request on the subject property.	
*Signature: <u>Bret Hogge</u>	Date: <u>10/12/2023</u>
Name: <u>Bret Hogge</u>	Company name: <u>Buzz Oates Construction, LLC</u>
Address: <u>555 Capitol Mall, Suite 900. Sacramento, CA 95814</u>	
Telephone: <u>916-379-3854</u>	Email: <u>brethogge@buzzoates.com</u>

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

January 12, 2024

Regulatory Division (SPK-2023-00812)

Buzz Oates Construction, LLC
Attn: Mr. Bret Hogge
555 Capitol Mall
Sacramento, California 95814
brethogge@buzzoates.com

Dear Mr. Hogge:

We are responding to your October 12, 2023, request for an approved jurisdictional determination for the *Pedrick Road Property* site. The approximately 37-acre project site is located near property address 8555 Pedrick Road, Latitude 38.48287°, Longitude -121.80736°, City of Dixon, California.

Based on available information, we concur with your aquatic resources delineation for the site, as depicted on the enclosed October 11, 2023, *Aquatic Resources Delineation Pedrick Road* drawing prepared by Madrone Ecological Consulting (*Enclosure*). No aquatic resources are present within the survey area. This letter verifies that the location and boundaries of wetlands were delineated consistent with the wetland definition at 33 CFR §328.3(c)(16), the 1987 *Corps of Engineers Wetlands Delineation Manual* (Wetlands Research Program Technical Report Y-87-1) and the applicable regional supplements; the location and boundaries of tidal waters conform with the high tide line defined at 33 CFR §328.3(c)(4); and the location and boundaries of non-tidal waters conform with the ordinary high water mark definition at 33 CFR §328.3(c)(7), Regulatory Guidance Letter 05-05, and any applicable regional guide.

This approved jurisdictional determination is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331. A *Notification of Appeal Process (NAP) and Request for Appeal (RFA) Form* is attached below. If you request to appeal this determination, you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPDPDO, 1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, we must determine that the form is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that the form was received by the Division Office **within 60 days** of the date of the NAP. It is not necessary to submit an RFA form to the Division Office unless you object to the determination in this letter.

We recommend that you provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

We appreciate feedback, especially about interaction with our staff and our processes.

Please refer to identification number SPK-2023-00812 in any correspondence concerning this project. If you have any questions, please contact Jeffrey Wang by email at Jeffrey.H.Wang@usace.army.mil, or telephone at (916) 557-5269. For program information or to complete our Customer Survey, visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Michael S. Jewell
Chief,
Regulatory Division

Enclosure

cc:

Ms. Bonnie Peterson, Madrone Ecological Consulting, bpeterson@madroneeco.com

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Buzz Oates Construction, LLC, Attn: Mr. Bret Hogge	File No.: SPK-2023-00812	Date: January 12, 2024
--	--------------------------	------------------------

Attached is:	See Section below
INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
PROFFERED PERMIT (Standard Permit or Letter of permission)	B
PERMIT DENIAL	C
→ APPROVED JURISDICTIONAL DETERMINATION	D
PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I – The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Jeffrey Wang
Regulatory Project Manager
CA Delta Section
U.S. Army Corps of Engineers
1325 J Street, Room 1827
Sacramento, CA 95814
Phone: (916) 557-5269, FAX 916-557-7803
Email: Jeffrey.H.Wang@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

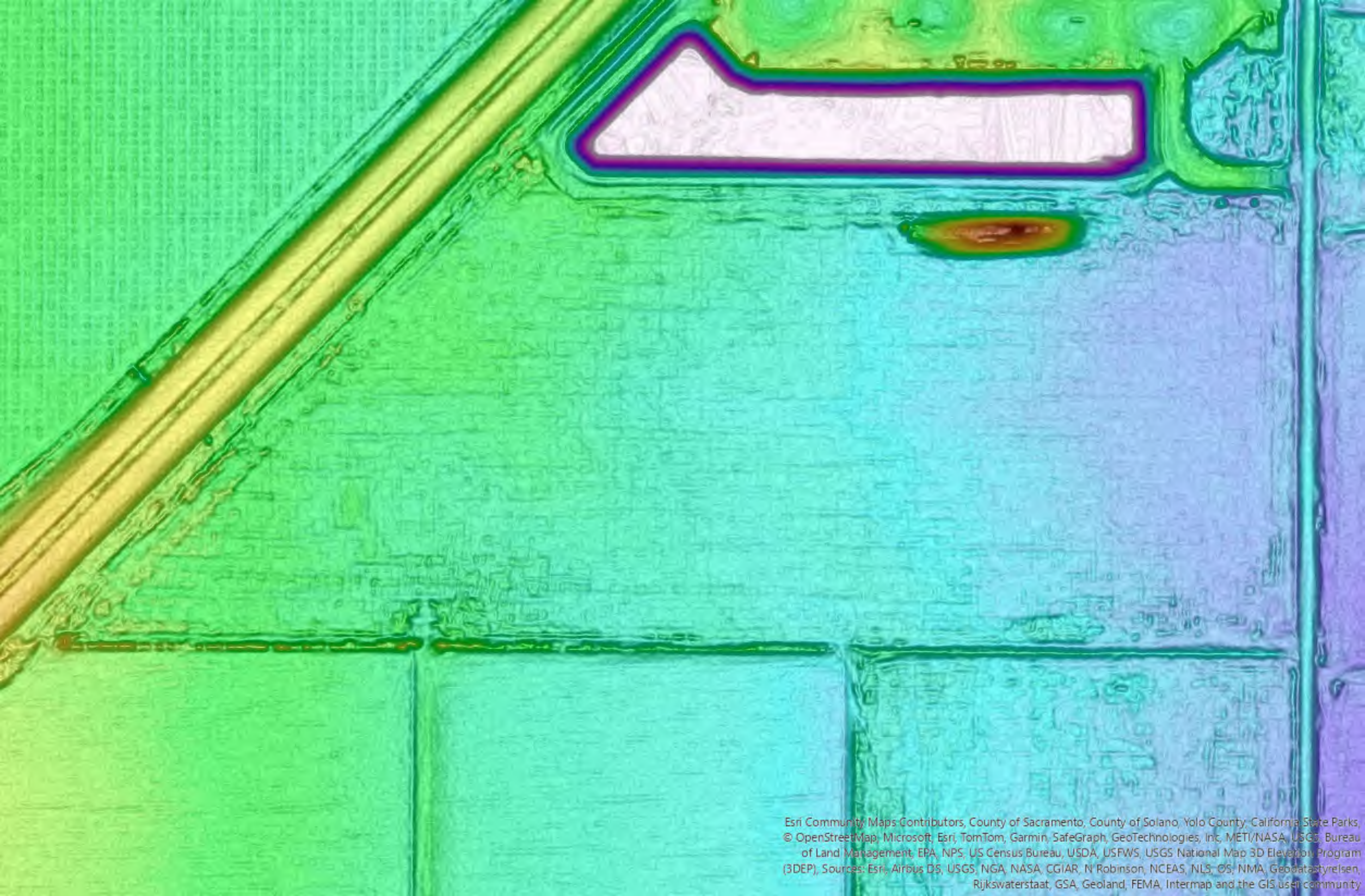
Travis Morse
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
Phillip Burton Federal Building, Post Office Box 36023
450 Golden Gate Avenue
San Francisco, California 94102
Phone: 970-243-1199x1014, FAX: 971-241-2358
Email: W.Travis.Morse@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:



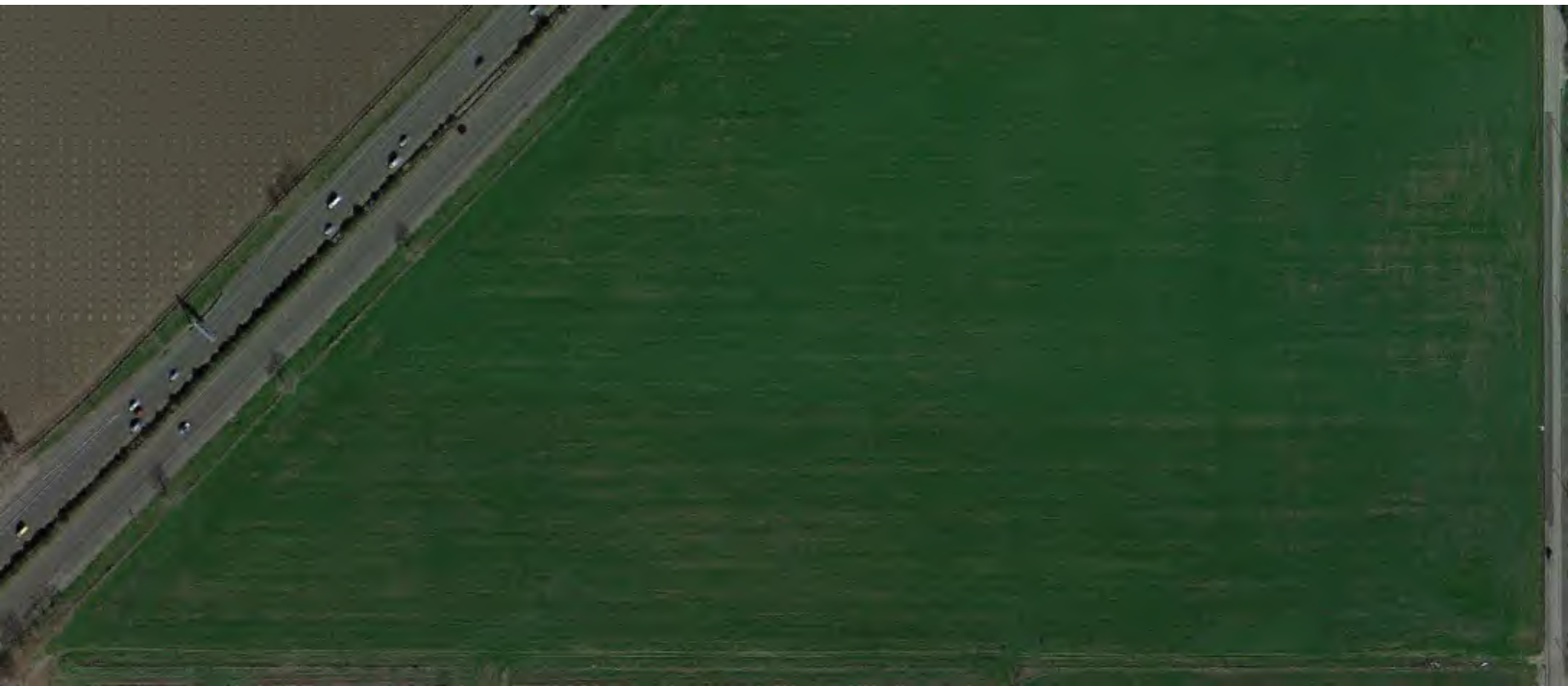


01/21/2023
Source: Digital Globe



09/05/2023

Source: Digital Globe



February 2018
Source: Google Earth Pro



February, 2020
Source: Google Earth Pro



February 2022
Source: Google Earth Pro